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No 28'55

SOAP and Chemical Specialties

In this issue...

n Ami girds for battle th pre-punched can top

ect resistance yields phosphorus compounds

fuming shampoo bases arks big sales growth

e of resins in floor a dispersions growing



now!



knock-out the **Odor** in Insecticides, Detergents and other strong-smelling Chemical Specialties with

CHLORSCENT

Many chemical specialties, which do an outstandingly effective job, fail to find favor with the public because of their disagreeable odor. If this is a problem with one of your products—you should know about CHLORSCENT! CHLORSCENT was specially developed for use in insecticides, detergents, disinfectants and many other chemical specialties which employ strong-smelling ingredients in their formulation. Chlorscent quickly, efficiently and economically covers and neutralizes these odors! A test will convince you completely, so why not order a trial quantity today. 1 lb. \$1.60.

reodorize 1 gallon of insecticide for only $2^{1/2}$ cents

Specialists in the creation of fine odors - exclusively!



AROMATIC PRODUCTS INCORPORA

A GREAT NEW PRODUCT! A TERRIFIC PACKAGING INNOVATION!

SAFE FOR BOWLS . . . AND . . . PORCELAIN ENAMEL

Sensational



Liquid Bowl and Porcelain

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OUT is a beautiful Medical Blue color and is labeled, directly on the bottle, in rich Sanitary White . . . a color and container combination that cuts sales resistance, instills confidence.

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ALL WASHROOM FIXTURES, IN ONE
OPERATION WITH ONE PRODUCT!

- Dip mop into handy, wide-mouth OUT jug. Convenient handle makes it easy to carry. No uninhibited acids to ruin clothing, injure hands. No poison label required. Use on porcelain enamel as well as viterous ware.
- DAB! Dab mop on surface to be cleaned and mop thoroughly. After cleaning toilet bowl, flush rings, urinal walls, other hard-to-see areas, check results with OUT "Mirror Card."
- OUT kills dangerous disease carrying bacteria.
 OUT combines bacteria-killing action with penetrating cleaning power, safely working its way into traps and drainage systems. Heavierthan-water OUT settles in these unreachable spots, kills odor-producing algae.
- Odors go OUT! Dirt, filth go OUT! Rust, iron scale, hard water stains clear OUT . . . fast!

Tested and approved by York Research Corp. for the Hotel Industry

Action of OUT has been verified by DILUTION "CONFIRMATION TEST" using Salmonella Cholerasuis.

Chole

See how this modern OUT container with wide mouth for easy mop insertion and convenient handle simplifies maintenance work. The clear glass jug with its white label and lettering and the pure, "medical blue" color of the product present and eye-appealing package. Packed in half-gallon and one-gallon jugs.

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Distributors Like OUT Because:

No poison label is needed! OUT comes in a streamlined package—no freight to pay on wooden crates, no bulky boxes to store. OUT is packed in easy-to-stack cartons. Distributor's name and address as source of supply appears on every jug of OUT!

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One product cleans and disinfects all washroom fixtures! Handy, safeto-use container...no

to-use container . . . no rubber gloves or special handling needed! Each carton of OUT contains bowl mops and mirror cards.



For additional information and OUT* prices, write or wire:

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c/o FULD BROS., Inc.

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NOVEMBER, 1955



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CONTENTS

In Brief as the Editor Seos It	. 35
As the Reader Sees It	. 39
Bon Ami Holes Its Own	
Optical Brighteners in Detergents By A. E. Siegrist	
Perfuming Shampoo Bases By C. F. Wight	
Deupree's 50 Years with P&G	50
Detergents for Petroleum Displacement Part II By R. T. Johansen, H. N. Dunning and Jeanne W. Beaty	
Dry Mixing Equipment	- 63
Insecticidal Phosphorus Compounds By John A. Fluno	
Jobber Boosts Unit Sales By Phil Lance	155
Resins in Floor Waxes By Alfred A. Kroner	163
NSSA Meeting in Philadelphia	173
Production Section	63
New Patents	73
Production Clinic	75
Products and Processes	79
Soap Plant Observer	81
Packaging Notes	93
Bids and Awards	103
New Trade Marks	105
Chemical Specialties Section	123
Classified Advertising	199
Coming Meetings	206
Advertisers' Index	207
Tale Ends	208

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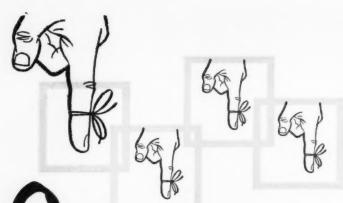
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Something worth remembering!

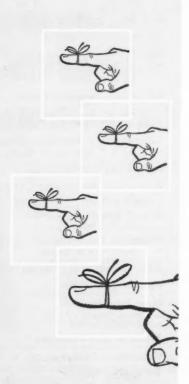
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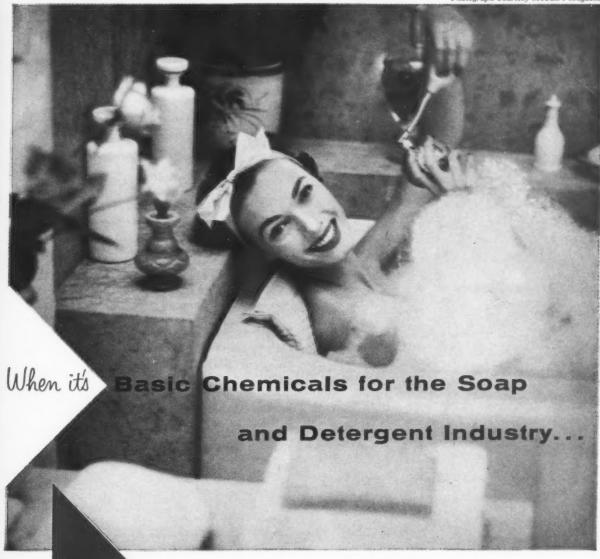
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outstanding wetting action good detergency excellent emulsifying action high soil-suspending property high soil-removing qualities fast foaming - free flowing Pleasant odor stability to chemicals

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 - Include testing sample
- Send bulletin on detergent compounds incorporating TEOX 120.

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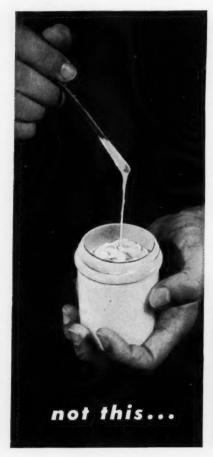
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News about

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superior gelling agent for glycerin

COSMETIC formulations based on Carbopol/Glycerol offer many important advantages, including the following:

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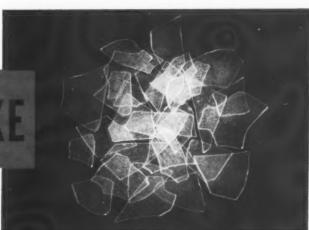
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Since Westvaco HEXAPHOS was introduced little more than a year ago, it has been so well

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SOLVAY MERCURY CELL Caustic Potash has only trace quantities of chloride or metals, and chlorates are not detectable. This new material is produced in 2 forms: in white flakes, 90-92% and 45% liquid.

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Oronite surfactants are priced competitively and have the high quality and uniformity you expect from the world's largest producer of synthetic detergent raw materials.

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New! Alkane Technical Bulletin—available to those interested in processing finished detergents from the basic raw material.



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3537





After Closing...

Joseph Fuld Injured

Joseph Fuld, secretary-treasurer of Fuld Brothers, Inc., Baltimore, was seriously injured aboard a Union Pacific train Oct. 31, while en route to San Francisco, where he was planning to attend the western regional meeting of the National Sanitary Supply Assn., Nov. 3-4. Mr. Fuld suffered a broken back in an as vet unexplained accident in the dining car of the train. He was removed from the train and taken to Memorial Hospital in Rawlins, Wyoming. His wife, Bernice, was accompanying him on the trip and they had just finished luncheon when the accident took place. Mr. Fuld will be in the hospital for at least three weeks, following which he will be placed in a cast and return to his home in Baltimore.

In March of this year Mr. Fuld underwent surgery for the removal of his gall bladder and had returned to work on a full time basis earlier this fall.

Norman Jay Heads Regal

Norman Jay has been elected president of Regal Chemical Corp., Brooklyn, N. Y., aerosol manufacturer, it was announced Nov. 2. He succeeds Theodore Heilig, who becomes chairman of the board. Mr. Jay was formerly president of Hazel Bishop, Inc., New York cosmetics firm. Regal plans an expansion program, details of which will be announced shortly.

WHC Moves in New York

Welch, Holme & Clark Co., New York, recently moved to new quarters at One Hudson St., New York 13, N. Y. The firm, which was founded in 1838, was formerly located at 439 West St., New York. The new telephone number is Barclay 7-4465. A supplier of raw materials for the soap and detergent industry, Welch, Holme & Clark maintains warehouses in New York City and Newark, N. J.

Cornelius, Ziegler Merge

The wax business of Cornelius Products Co. and G. S. Ziegler & Co., both New York, were combined Nov. 1, it was announced early this month. As a result of the consolidation, Cornelius becomes the wax refining division of Ziegler, with headquarters at 99 Church St., New York.

General Wax Refining Co. and General Wax Refining of Canada, Ltd., wholly owned subsidiaries of Cornelius are included in the merger.

G. S. Ziegler operates a chemical plant at New Market, N. J., which compounds fatty acid derivatives and waxes.

All Cornelius facilities including research laboratory and production have been added to Ziegler's wax operation. The division remains under the management of Hans Freund, George Freund and Edward Koos.

Shepherd Forms Own Firm

The formation of Aerosol Techniques, Inc., 111 Silliman Ave., Bridgeport 5, Conn., was announced early this month by Herman R. Shepherd, president. The company will specialize in contract filling, loading and packaging of pressurized products.

Mr. Shepherd was vice-president and one of the founders of Connecticut Chemical Research Corp., Bridgeport, and its wholly owned subsidiaries, including Bostwick Laboratories, Inc., until his resignation as an officer and member of the board of directors on Sept. 30. Earlier he had been connected with the aerosol department of Bridgeport Brass Co.

Production facilities and three separate research laboratories have been designed and are being installed for each of the company's product divisions: one for cosmetics, another for pharmaceuticals and a third devoted to application of aerosol techniques to industrial chemicals and chemical specialties. All machinery and equipment is being built under Mr. Shepherd's direction. Operations at the new company are expected to begin in December and capacity production is expected to be reached by January 1, 1956. Liquefied gas combinations other than those now being used will also be employed by Aerosol Techniques.

Mr. Shepherd is chairman of the Aerosol Division of the Chemical Specialties Manufacturers Association and a member of the board of governors of CSMA, in which he has been active for several years. He recently served as moderator for a symposium on aerosols conducted by the Society of Cosmetic Chemists. He is the first guest speaker to have addressed a meeting of the New York chapter of the society.

A. Givaudan Visits U. S.

Andre Givaudan, a director of L. Givaudan & Cie, S.A., Geneva, Switzerland, and its associated organizations, including Givaudan-Delawanna, Inc., New York, made his semi-annual visit to the United States last month. Following visits and conferences with friends and business associates here, he sailed for Paris on Oct. 29. From Paris he will return to Geneva.

Raises Phosphate Prices

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Advances in the prices of sodium phosphates produced by Westvaco Mineral Products Division, Food Machinery and Chemical Corp., New York, effective Jan. 1, 1956, were announced early in November by Dr. Desmond M. C. Reilly, sales promotion and publicity manager of Westvaco. The advances are as follows: sodium tripolyphosphate and tetrasodium pyrophosphate, 15 cents per hun-

dredweight in all categories; monosodium phosphate anhydrous, trisodium phosphate anyhdrous and sodium hexametaphosphate, 20 cents per hundredweight in bagged carloads and less than carloads. Bulk prices on these products will be 30 cents per hundred weight below bagged carload prices. All prices are f.o.b. plant, freight equalized.

Moran Wax Applicator

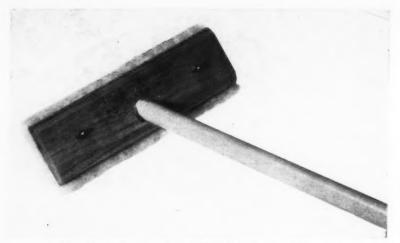
The addition of a new line of professional floor wax applicators was announced recently by Moran Brush Co., Hamden, Conn. The new applicator, tradenamed "Zip," is made of genuine shearling sheepskin mounted on a varnished hardwood block with varnished hardwood handle. The applicator comes in six sizes: eight, 10, 12, 14, 16 and 18 inches. Jobber trade marks are imprinted free of charge. Refills come in transparent polyethylene plastic bags. A mail stuffer on new applicator is available.

Formula Phila. Branch

Formula Floor Products Co., Newark, N. J., announced recently that it would shortly open a branch office, showroom, and warehouse in Philadelphia. Presently the firm maintains a large sanitary supply and equipment warehouse, offices and showrooms in Newark, from which it serves the metropolitan New Jersey, New York and Connecticut areas.

Bareco to Sell Wax Plant

Directors of Bareco Oil Co., Tulsa, Okla., approved late in October the proposed sale of the firm's Barnsdall, Okla., wax refinery and its wax business to Petrolite Corp., Kilgore, Tex., for Petrolite capital stock. Petrolite's directors have also approved the proposed transaction, which now awaits final authorization by stockholders of both companies. If completed the sale will become effective Dec. 1, 1955. The wax operations of the two companies will be combined under



New Moran Brush professional "Zip" floor wax applicator.

the name of Bareco Wax Co., a division of Petrolite Corp. This division will continue production of the full line of Bareco microcrystalline waxes at the Barnsdale refinery. It will also carry on operation of Petrolite's present facilities for the manufacture of high melting point hydrocarbon waxes at Kilgore, Tex.

Boxer Corp. Moves

Boxer Manufacturing Corp., St. Louis, Mo., detergent dispensing equipment maker, announced last month removal of its plant and offices to 2600 Iowa Avenue, St. Louis 17. The 13,000 additional square feet acquired by the move will be used exclusively for the manufacture of dispensing equipment.

Harder Waxes Seen From Nitroparaffin

H ARD waxes, improved floor polishes, and corrosion inhibitors are just a few of the numerous improved products resulting from research done on nitroparaffins. These results were reported in a number of papers presented at a symposium held at the Waldorf-Astoria Hotel, New York, Oct. 25, and sponsored by Commercial Solvents Corp., New York, which marked the 20th anniversary of joint research and development work by CSC and Purdue University to mature this group of products into industrial usefulness. At Sterlington, La., CSC's new nitroparaffins plant has now reached full-scale production.

Tris(hydroxymethyl) aminomethane, one of the ten nitroparaffin compounds now flowing from the Sterlington plant, can be condensed with stearic acid to yield waxes of exceptional hardness; the condensates' melting point can be lowered according to requirements

by reacting it with formaldehyde. The final product is suggested for use on cement and similar surfaces. "Tris" was the subject of a presentation by S. H. Shapiro, head of the methods and standards section of the Chemical Division, Armour & Co., Chicago. The compound's properties resemble those exhibited by pentaerythritol, Mr. Shapiro said. Armour began to work with "Tris" in the development of new drying oils. By condensing three moles of polyunsaturated drying oil fatty acids with one of tris (hydroxymethyl) aminomethane, and reacting the condensate with formaldehyde a product emerged having properties similar to tung oil. By varying the fatty acid the nature of the condensate is altered, but all derivatives exhibit excellent resistance to alkali corrosion. Varnishes made with such a condensate and compared with coatings made with alkyd resins showed shorter drying time, superior hardness and cold water resistance and high alkali resistance.

High gloss and good wear resistance are exhibited by self-polishing floor waxes made with 2amino-2-methyl-1-propanol, commonly referred to as AMP. R. T. Means, technical service sales engineer, Petrolite Corp., New York, presented a paper co-authored by M. E. Bolton, on AMP oleate as an emulsifier in these floor products, which are really water dispersions of waxes. Gloss and emulsion stability are largely controlled by the size of the wax particles, which in turn is controlled by the emulsifier. Extremely small particles such as produced in the presence of AMP make for good shelf life and for translucency of the film, minimizing irregularities and consequent scattering of light. Water resistance, removability and leveling properties of the polish are directly affected by the emulsifier. The first two qualities are obviously closely related and the final application of the product must decide which of the two must take precedence. However, AMP formulated films are said to strike a satisfactory balance between good water resistance and excellent removability. Concentration of the emulsifier is of great importance to the leveling properties of the applied product. The critical range for AMP is narrow and incorporation of shellac or some other leveling agent in the formula is suggested to broaden the range. Lower concentrations of AMP than of other amines are required for satisfactory results and less oleic acid is needed.

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Looking into the future of nitroparaffins Ralph A. Morgan, director of research of Purdue Research Foundation said that nitration of a mixture of long and short chain hydrocarbons might yield a new group of detergents and that a new synthesis of quinoline was one of the untapped possibilities in the field. With mounting production an improvement in price will come about Dr. Morgan said.

R. B. Stewart, vice-president and treasurer of Purdue Uni-

versity was the luncheon speaker, his subject: "The Nitroparaffins—An Example of University-Industry Cooperation." Exhibits featured by CSC at the symposium, held at the Waldorf-Astoria Hotel, New York, Oct. 25, included a complete scale model of the Sterlington plant.

New Haag Floor Finish

A new, non-wax, plastic floor finish that may be applied to any type of flooring and requires no buffing was announced recently by Haag. Laboratories, Inc., Blue Island, Ill. The new finish, tradenamed "Chemi-Coat," is claimed to provide a tough plastic surface that combines non-slip and high gloss properties. A feature of the new finish is the fact that it can be applied over water-emulsion type wax

finishes that need not be removed before putting down "Chemi-Coat." Ease of application, buffability to restore original lustre, mar and scuff resistance, water resistance and ease of removal are also claimed for the new finish. "Chemi-Coat" restores color to floors, will not crack, streak or darken floors and will not whiten when wet after being seasoned, according to Haag.

Prices of "Chemi-Coat" range from \$1.65 per gallon in one gallon drums to \$1.45 a gallon in 55 gallon drums. Available in new containers, the finish is also packaged in 30, 15 and five gallon drums.

Fuchs on Emulsol Board

Charles F. Fuchs, vice-president and technical director of Emulsol Chemical Corp., Chicago, has been elected to the board.

CSMA Program for Meeting Dec. 5-7

T ENTATIVE program details on the 42nd annual meeting of the Chemical Specialties Manufacturers Association, to be held at the Hotel Roosevelt, New York, Dec. 5, 6, and 7, have just been announced by H. W. Hamilton, secretary. The program as scheduled follows:

Tuesday morning, Dec. 6

AUTOMOTIVE DIVISION, A. James Coulter presiding, Address of division vice chairman, by A. James Coulter, "Determining Relative Polish Quality Using a Polish Comparator," by F. B. Hutto and P. A. Martinson, Johns-Manville Products Corp., Celite Division, New York; "The New Epoxy Resin Mending Dopes for Automobile Bodies," by John G. Coffin, engineering department, Chevrolet Division, General Motors Corp., Detroit; "Enforcement of Brake Fluid Laws and Regulations," by H. G. Lederer, R. M. Hollingshead Corp., Camden, N. J.

DISINFECTANTS and SANITIZERS DIVISION, Russell G. Puhle, presiding, Address of division chairman, by Russell G. Puhle, Tykor Products Division, Borden Co., New York; Symposium: Detergents — Sanitizers, moderator, Dr. E. G. Klarmann, Lehn & Fink Products Corp., New York: "Phenolic Based Deergent-Sanitizers," by C. R. Scott, Biochemical Research Dept., Dow Chemical Co., Midland, Mich.; "Iodine Based Detergent-Sanitizers," by Dr. Perry G. Bartlett, West Disinfecting Co., Long Island City, N. Y.; "Quaternary Based Deter-

gent-Sanitizers," by Harry Borowsky, Onyx Oil & Chemical Co., Jersey City, N. J.; "Chlorine Based Detergent-Sanitizers," by John A. Quinn, Theobald Industries, Kearny, N. J.; "Labeling Aspects of Detergent-Sanitizers," by L. S. Stuart, in charge, Bacteriological Unit, Pesticide Regulation U. S. Department of Agriculture, Washingon, D. C.

INSECTICIDE DIVISION, George W. Fiero, presiding, Address of Division chairman, by George W. Fiero, Esso-Standard Oil Co., New York; Report of Scientific Committee, by G. S. Kido, chairman, Wisconsin Alumni Research Foundation, Madison, Wis.; Report of Chemical Analysis Committee, by Mark L Hill, chairman, Gulf Oil Corp., Philadelphia; "Studies on Mode of Action of Pyrethrins," by Dr. C. W. Kearns, University of Illinois, Urbana, Ill.; "Insects as Livestock Pests," by Arthur W. Lindquist, U. S. Dept. of Agriculture; Agricultural Research Service, Entomology Research Branch, Plant Industry Station, Beltsville, Md.; "Current Status of Pyrethrum Supplies," by Russell B. Stoddard, Fairfield Chemical Division, Food Machinery and Chemical Corp., New York; "State Laws and Regulations Affecting Sale and Distribution of Household Insecticides," by Albert B. Heagy, secretary-treasurer, Association of American Pest Control Officials, Inspection & Regulatory Service, University of Maryland, College Park, Md.; 'Control of Scabies in Sheep and Cattle," by Dr. J. L. Hourigan, Chief Special Diseases Eradication Section, Agricultural Research Service, U. S. Department of Agriculture, Washington, D. C.

WAXES and FLOOR FINISHES DIVISION, Address of division chairman, by A. E. Budner, S. C. Johnson & Son, Inc., Racine, Wis.; "Compilation of Acid and Saponification Numbers According to Suppliers Method of Testing and ASTM Proposed Methods, including Hydro-carbon Content by ASTM 1342 for Waxes," by Melvin Fuld, Fuld Bros. Inc., Baltimore, Md.; "Modern Trends in Floor Finish Formulation," by K. J. Wasserman, Dura Commodities Corp., New York; "Market Research Techniques and Results," by Irving Gilman, Institute of Research for Mass Motivation, Croton - on - Hudson, New York; Waxes and Floor Finishes Survey for 1953-1954, by A. E. Budner, S. C. Johnson & Son Inc., Racine, Wisc.; "A Comparison of the Behavior of Carnauba Wax and Gersthofen Wax 'KPS' in the Manufacture of Self Polishing Emulsions," by Dr. Wolfgang Sappor, Farbwerke Hoechst A. G., Lech-Chemie Gersthofen, Wax & Rosin Products, New York.

Tuesday afternoon, Dec. 6

GENERAL SESSION, Report of Nominating Committee, by L. J. Oppenheimer, chairman, West Disinfecting Co., Long Island City, N. Y.; Election of Officers and Board of Governors for 1956; Presentation of Achievement Award to Jay C. Harris (Monsanto Chemical Co.) by Melvin Fuld, president of Chemical Specialties Manufacturers Association; Presentation of Aerosol Package Contest Awards, by Frederick G. Lodes, chairman, Aerosol Package Contest, Precision Valve Corp., Yonkers, N. Y.

SOAPS, DETERGENTS and SANI-TARY CHEMICAL PRODUCTS DIVI-SION, James A. Cloney, presiding; Address of divisional chairman, James A. Cloney, Antara Chemical Division, General Aniline & Film Corp., New York; "General Properties of AC1 85," by Dr. Louis Fernandez, Monsanto Chemical Co., St. Louis; "High Activity Alkylolamide Detergents," by H. L. Sanders, O. E. Libman and Y. G. Kardish, Ninol Laboratories, Inc., Chicago; "Spotting Agents for Synthetic Fibers," by Martin L. Davis, Atlas Powder Co., Wilmington, Del.; Report of the Scientific Committee, by Jay C. Harris, Monsanto Chemical Co., Dayton, O.

AEROSOL DIVISION, H. R. Shepherd, presiding, Address of division chairman, by H. R. Shepherd, Aerosol Techniques. Inc. Bridgeport, Conn.; "Surface Coatings in Aerosols," by J. W. Bampton, Krylon, Inc., Norristown, "Corrosion in Aerosol Systems," by Morris J. Root, technical director, G. Barr & Co., Chicago; "Formulating Cosmetic and Pharmaceutical Aerosols," by Lee D. Callans, General Chemical Division, Allied Chemical & Dye Corp., New York; "Food Products and Their Adaptation to Aerosols," by W. E. Graham, manager of research, Crown Cork & Seal Co., Inc., Can Division, Phila-delphia; "Peracetic Acid in Aerosols," (1) "The Raw Materials," by Dr. Frank P. Greenspan, Becco Chemical Div.,

Food Machinery and Chemical Corp., Buffalo, N. Y .; (2) "The Packaging Aspects," by Montfort A. Johnson, research dept., Continental Filling Corp., Danville, Ill.; (3) "The Product Aspects and Proposed Usage," by Dr. P. C. Trexler, Associate Research Professor, Lobund Institute, University of Notre Dame, Notre Dame, Ind.; "Research Survey," by E. I. duPont de Nemours & Co., Inc., Wilmington, Del.; "Report of Aerosol Scientific Committee," by W. E. Baulieu, chairman, Bridgeport, Brass Co., Bridgeport, Conn.; Report of Commercial Standards Committee, by R. W. Svendsen, chairman, Chase Products Co., Maywood, Ill.; "Properties of Two Low Pressure Propellents," by John H. Beacher, General Chemical Division, Allied Chemical & Dye Corp., Edgewater, N.J.; "Report of Glass Aerosol Advisory Committee, by E. G. Young, E. I. du Pont de Nemours & Co., Wilmington, Del.
Company "Open House" Even-

ing, 6:00 P.M. to 9:00 P.M.

Wednesday Morning, Dec. 7

GENERAL SESSION, E. G. Klarmann, presiding, 1st vice president, CSMA; Address of the President; "Business Forcastingl Do It Yourself!," by Melvin Fuld, Fuld Bros., Inc., Baltimore, Md.; Report of the Secretary, by H. W. Hamilton; Report of the Treasurer, by P. C. Reilly, Reilly Tar & Chemical Corp., Indianapolis, Ind.; Report of the General Counsel, by John D. Conner, Washington, D. C.; "The Reserve Forces Act of 1955 and the Problems of American Industry," by Colonel John S.

1955 Aerosol Judges

Names of the judges for the 1955 Aerosol Awards, a packaging contest sponsored by the Chemical Specialties Manufacturers Assn., were announced recently by CSMA.

The awarding of plaques to the winners of the contest will take place following a luncheon during the 42nd annual CSMA meeting Dec. 6. Judges of the 10 categories of pressure packaged products, as well as a best of show package, include:

Hoyt Howard, art director, Hoyt Howard, Inc., New York; Robert P. Long, editor and publisher of GRAVURE magazine, Garden City, N. Y.; Max Brown, vice-president in charge of sales and advertising, Fels & Co., Philadelphia, and Michael Miesler, buyer of toiletries and cosmetics for Saks Fifth Avenue, New York.

Roosma, Special Assistant to the Commanding General, Headquarters First Army, Governors Island, N. Y.; "Business Outlook for 1956," by Kenneth Kramer, managing editor, Business Week, New York; "The Development of Executives," by Dr. Millard C. Faught, Faught Co., New York.

Wednesday afternoon, Dec. 7

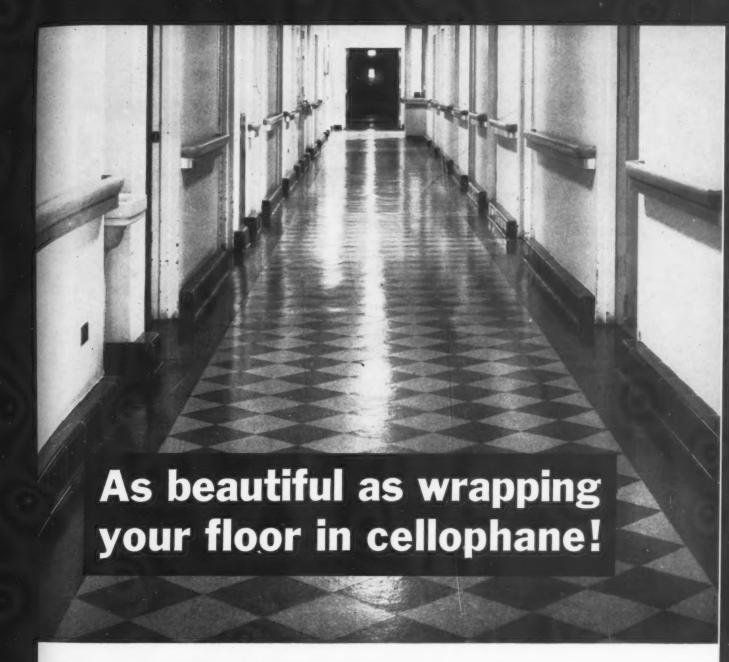
JOINT SESSION, AEROSOL and INSECTICIDE DIVISIONS, Charles E. Beach and Carlos Kampmeier, presiding; "The Cascade Impactor for Particle-Size Analysis of Aerosols," by J. Mason Pilcher, assistant division chief, Battelle Memorial Institute, Columbus, O.; "Corrosive and Storage Stability of Aerosol Insecticides," by Dr. R. A. Fulton, U. S. Department of Agriculture, Agricultural Research Service, Entomological Research Branch, Beltsville, Md.; "The Importance of Long Range Planning and How Importance of Markets Can Help," by Dana Hill and Margaret De Ville, delivered by: Dana Hill, Continental Can Co., New York; "Chlordane-Quaternary Ammonium Mixtures in Low Pressure Aerosols - Insecticidal Deodorant Applications," by Leo Trademan, technical service department, Velsicol Chemical Corp., Chicago.

DISINFECTANT and SANITIZERS DIVISION, A. G. Bowers, presiding; "Experimental Quaternary 3104," by Ely M. Swisher, Rohm and Haas Co., Philadelphia; "Relative Toxicity of Selected Experimental Fungicidal Compounds Compared with Presently Utilized Chemicals," by A. E. Prince, Chief, Biochemical Section, Protective Proces-Branch, Materials Laboratory, ses Wright Air Development Center, Wright-Patterson Air Force Base, Dayton, O.; "Status of Recommended Revisions of the Milk Ordinance and Code," by Dr. Keith H. Lewis, Chief, Milk and Food Research, Robert A. Taft Sanitary Engineering Center, Cincinnati, O.; "Chemical Decontamination in the Army Biological Warfare Research and Development Laboratories," by Dr. A. G. Wedum, safety director, Headquarters, Camp Detrick, Frederick, Md.

Joint Session: SOAPS, DETER-GENTS AND SANITARY CHEMICAL PRODUCTS DIVISION AND WAXES AND FLOOR FINISHES DIVISION: Symposium on Cleaning and Maintenance of Floor Coverings, C. S. Kimball, Foster D. Snell, Inc., New York, moderator; "Asphalt Tile," by Robert J. Harrisman, B. F. Goodrich Co., Watertown, Mass.; "Rubber Flooring," by Merrill M. Smith, American Bilt Rite Rubber Co., Trenton, N. J.; "Other Types;" "Industrial Cleaners," by Walker F. Wegst, Wyandotte Chemicals Corp., Wyandotte, Mich. and Adrian S. DuBois, West Disinfecting Co., Long Island City, N. Y.; "Household Floor Cleaners," by a speaker to be announced; "Industrial Floor Coatings," by Gerard R. DeNapoli, Masury-Young Co., Boston; "Floor Maintenance in the Home," by Fred C. Kraatz, S. C. Johnson & Son, Inc., Racine, Wis.; "Maintenance Company's Operations," by a speaker to be announced.







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Banishes odors at their source. Patented "Snap-on" wire hanger holds
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Flakes shown 1/3 actual size

LOOK ... NO WASTE

Every ounce in the drum is usable when you buy Hooker caustic soda flakes

Give your product the advantages of these clean Hooker flakes made just the right size and thickness by a new flaking-screening operation.

These caustic soda flakes are uniformly sized when you get them ... and they stay that way until you use them. You get only the flake size you want, with every drum you buy.

For samples write or phone the nearest Hooker office. Or talk with your Hooker jobber. He can help you decide which size is your best buy, and make certain you always have a supply of the size or sizes you want.

You can also get Hooker caustic in powdered form; as a solid; and in 50% and 73% solutions—in a grade to meet your requirements.



FLAKES STAY DRY in this new 400-lb. drum. The 14-inch lid stays tight in transit and storage, held securely by six lugs to keep caustic at full strength for your process. You can also get Hooker flake caustic in re-usable full open-head drums, at slight additional charge.



FOR FAST SERVICE, phone: New York . . . MUrray Hill 2-2500

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1905—Half a Century of Chemicals

From the Salt of the Earth-1955

HOOKER ELECTROCHEMICAL COMPANY

Buffalo Avenue & Union Street, Niagara Falls, N. Y.

NIAGARA FALLS . TACOMA . MONTAGUE, MICH. . NEW YORK . CHICAGO . LOS ANGELES

Mucconol SI

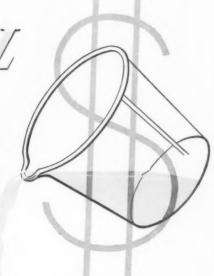
Nacconol SL looks clean—smells clean—gives any liquid detergent extra sales appeal.

Four very important features are:

Excellent foaming—very low hazepoint
—emulsifies grease and oil—compatible
with anionic and non-ionic materials.

You can also cut production costs by using Nacconol SL because no dissolving is necessary and no extra stabilizer is needed.

Now is the time to get your share of the fast growing liquid-detergent market. First step is to get your sample of Nacconol SL and our price and delivery quotation. Get in touch with our nearest office.



Nacconor

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

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FOR ALKYL ARYL SURFACE-ACTIVE AGENTS
"OF THE FIRST WATER"

NEOLENE 400

INTERMEDIATE FOR SYNTHETIC DETERGENTS

There's good reason for the rapidly increasing use of NEOLENE 400 by the world's largest processors of synthetic detergents—and by other users everywhere. NEOLENE 400 has established itself on the basis of superior quality... in stability, in uniformity and purity... in performance of the finished sulfonate. Look to Continental for outstanding products processed from NEOLENE 400. Among these are:

DETERGENT SLURRY—for formulation—spray and drum drying.

SYNTHETIC OIL-SOLUBLE SULFONATES—various forms for many applications.

SYNTHETIC DETERGENTS—drum or spray dried.

Samples and technical information on NEOLENE 400 and a wide range of other Conoco Petrochemicals furnished by request on your letterhead.



Petrochemical know-how from the ground up!

CONTINENTAL OIL COMPANY

PETROCHEMICAL DEPARTMENT, DIVISION A-11

630 Fifth Avenue, New York 20, N. Y. 1353 No. North Branch Street, Chicago, Ill. Export: Airco Company International, 60 East 42nd Street, New York 17, N. Y.

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Modern detergents present special scenting problems which have received careful technical attention from Felton Chemists.

Using ordinary oils to perfume a detergent is like sending a boy to do a man's job. As a result of applied research and innumerable tests with every type of detergent, Felton is able to offer the manufacturer highly dependable perfume oils that simply won't whiten-out.



PLANTS: Brooklyn, N. Y. • Los Angeles, Cal. • Montreal, Que. • Versailles (S&O) France
SALES OFFICES: Atlanta • Boston • Chicago • Cleveland • Philadelphia • St. Louis • Toronto
Stocks Carried in Principal Cities

Felton Detergent Perfumes have what it takes!

Tell us about your detergent product and its use; we will be very glad to send you suitable perfume samples.

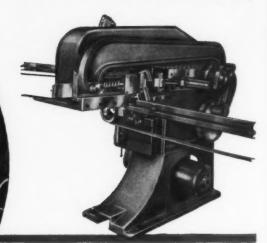
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The SUN never sets on SOAP—
Well-Pressed by JONES!

SOAP is well pressed all over the globe, by JONES Soap Presses. We are proud to list some users who have endorsed JONES Presses by

REPEAT ORDERS-

many are using dozens of them.



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R. A. JONES & COMPANY, INC.
Cartoning Wachines - Soap Presses-

P. O. BOX 485 CINCINNATI, OHIO

...in brief

as the editor sees it . .

FREIGHT RATES If there is one thing more than another which interferes with business in this country today, it's freight rates, and also trucking rates. Slowly but surely, they are strangling the small manufacturer and also the distributor who services a territory of any size. Slowly, they are hemming in every shipper of merchandise, no matter what he ships. Slowly, the territory in which he can ship and afford to pay freight or trucking rates becomes smaller and smaller. Slowly, business becomes more localized and the local producer or distributor is at a marked advantage.

Always freight rates have restricted shipments especially over long distances, but the extent to which these restrictions have grown tends to localize business more and more as time goes on. The No. 1 complaint of small manufacturers,—and we have talked to hundreds of them who ship soaps, detergents, cleansers, sanitary supplies,—is the rise in cost of freight and trucking. Cost of other things has risen also, but it's freight rates that they complain about.

But freight and truck rates are set by the ICC and other agencies, and there's not much that the small fellow can do about it. This does not alter the fact, however, that shipping costs have reached a point where they come close to being intolerable.

of a heated controversy at a recent meeting of the Sales Executives Club in New York. Top man of a supermarket chain damned all coupons and said that they bring nothing into the store and merely switch a buyer from one brand to another. On the other hand, the president of an outfit which handles distribution and redemption of coupons, said that couponing can do more good for a product, do it faster and

better, and at lower cost, than any other medium of advertising.

The chain store fellow said coupons do nothing for a store, that a woman with a coupon does not buy twice as much soap, but merely buys a different brand. He added that if manufacturers can afford couponing, then their prices are too high. He suggested putting the money into newspaper advertising. He objected in toto to "excessive couponing" and "having merchandise rammed down our throats merely because the manufacturer is putting on a special promotion." And he concluded: "We want no part of any such efforts When manufacturers force me to handle merchandise that I don't want to handle, that's democracy with a gun at my back."

And there you have it. No retailer likes coupons in any form. If they dared, they would boycott manufacturers who do "excessive couponing." Basically, this is not a good situation.

PROPEL Controversy rages through the aerosol industry. It all started over little or nothing and is gradually taking on the proportions of a full-size tornado. How to spell "propellant?" That's the nub of the argument. One school of thought insists that it's "propellent." The other refuses to budge from "propellant." And there we are.

Figuring that the dictionary should be a good place to get the facts, we consulted both Webster and Funk & Wagnalls. They tell us that "propellent" is something "able to propel." It's listed as an adjective. Then comes "propellant." And this word, the experts say, means "that which propels." This latter is a noun. From this point on "you pays your money and takes your choice."

these two

NOPCO HYONICS

offer a hard-to-find combination of properties

HYONIC FA 75

(a 70% active modified fatty alkylolamide)

... tolerates substantial quantities of alkaline builders and remains stable

... gives 50% to 100% more foam

... highly soluble in electrolyte solutions, which will not cause insoluble precipitation, even at fairly high concentrations

> ... particularly suitable for liquid products where anionics are required to gain complete solubility and stability

HYONIC FA 40

(a 100% active nonionic alkylolamide)

... has extreme thickening action, which gives attractive body to liquid detergents at low solids concentrations

...non-corrosive. Allows finished formulations to be packaged in plain metal containers

...high foaming...outstanding detergency in the presence of phosphate builders

...highly resistant to precipitation by calcium ions

SOME TYPICAL FORMULATIONS

Window Cleaner
Methanol ... 5%
Isopropanol .. 5%
HYONIC FA 75 1%
Water89%

Bar Glass Cleaner HYONIC FA 75 20% Water80% Liquid Scouring Concentrate HYONIC FA 75 11% Sodia Ash . . . 6% Sodium Tripolyphosphate . . 5% Water 78%

SOME TYPICAL FORMULATIONS

Emulsion Cleaner Stoddard's Solvent45% HYONIC FA 40 5% Water50% Bodied Soap Shampoo Potash Vegetable Soap 7% HYONIC FA 40 3% Sodium Tripolyphosphate ... 2% Water88%

The above are but two of Nopco's fast-growing list of "families" of detergent aids. Others include 100% active, nonionic, ethylene condensates, also 100% active lauric acid alkylolamide condensates. Nopco's technical men

will work with you to the fullest to help give your detergents many practical, saleable advantages. For full information write today. Nopco Chemical Company, 788 Industrial St., Harrison, N. J.



PLANTS: Harrison, N. J. . Cedartown, Ga. . Richmond, Calif. . London, Canada

With fear and trembling that we may get our ears knocked down by one of the belligerent factions, we forthwith stick our nose into the argument. Now, we've always spelled the controversial word, "propellent." But after consulting the lexicographic experts, we have a hunch that maybe the "propellant" boys have a point. But after all the evidence is in and if we have to reverse ourselves, we shall do just that. Until then, it's "propellant."

PACKETS.... The new gimmick in detergent sales, especially non-sudsing detergents, is the one ounce packet. These are packaged in five, ten or even twenty pound large cartons and are supposed to be used one packet to a wash. With their convenience in measuring out the right amount of detergent there can be no quarrel on the part of the user. And it makes for economy as well as convenience in soap or detergent use.

But what about the poor soaper? That the use of these smaller packets on a wide scale will cut down the over-all use of detergent or soap is quite apparent. For generations, Mrs. McGuff has used twice as much soap as she has needed to do the job. If she rinses out all the excess, no harm is done except that she has wasted some of her soap supply. When she just dumped in the soap out of the torn end of a carton, she used plenty. Much of it went down the drain actually unused. But, boy, it was great for the soap business.

Now, we're going to make the lady frugal in spite of herself, — or maybe she might sneak in an extra packet just for luck. And also it costs a lot of money to put the detergent in these little packets. So, it's got us to wondering about the whole deal. Maybe it's not so good like it looks.

AEROSOL REGULATIONS . . . In spite of all that has been written, published and discussed on the various rules and regulations covering the packaging, shipping and labeling of aerosol containers, apparently there are some people in the industry who are

unaware of the regulations with which they must comply. The most widespread fallacy among the uninformed in the aerosol industry or those who are adopting aerosol packaging for their products is that if you have complied with one regulation you have fully discharged your responsibility as an aerosol packager.

Nothing could be further from the truth. In some cases there are regulations of federal, state and local authorities, as well as those of certain shipping groups applying to the shipment and labeling of aerosol products. Not one or two, but *all* of these regulations must be complied with. Failure to do so may mean losses in time, money, prestige and sales.

For those who have not already done so, in the interests of their own individual businesses as well as those of the aerosol industry as a whole, we heartily recommend the reading of the article "Aerosol Regulations," which appeared in the August issue of this magazine. Reprints of the article, the most authoritative one of its kind, are available.

Because aerosols represent a departure from conventional packaging, and because they introduce certain factors not present in normal packaging all the more reason exists for familiarity with the regulations affecting these products, particularly when they are shipped in interstate commerce.

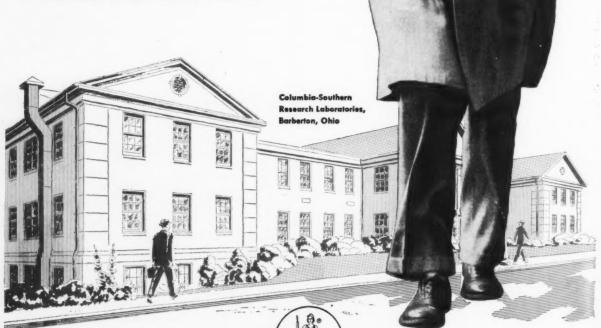
SELLING . . . Having just been exposed at two meetings to a whole series of discussions of the problems of selling and salesmen, we feel qualified almost to speak as an expert. This in spite of the fact that you reach the inescapable conclusion that no two people (particularly salesmen or sales managers) agree on what it takes to sell. We've heard the qualifications of the good salesman summed up in the one word, "Service," and the term "creative imagination" applied by others. But what struck us was the fact that the idea of a salesman requiring a high degree of competitive instinct was universally overlooked. Maybe everyone takes it for granted, but for our money it is the key to the whole success of the sales and economic pattern in this country.

LET THIS MAN HELP YOU WITH YOUR SODA ASH PROBLEMS

Most users of soda ash are thoroughly familiar with the properties of this product. However, the uses of soda ash are so varied that many technical problems that require the attention of special technicians continue to present themselves.

If you have a soda ash problem now, or at any time in the future, remember that the men in Columbia-Southern's Technical Department are always ready and eager to help you.

These problems may involve selecting the best form or grade for a particular application, or the most suitable methods of handling and storing soda ash. But whatever it may be, we invite you to make use of the knowledge of our highly trained men here at Columbia-Southern.



COLUMBIA-SOUTHERN CHEMICAL CORPORATION

SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY
ONE GATEWAY CENTER · PITTSBURGH 22 · PENNSYLVANIA

DISTRICT OFFICES: Boston • Charlotte Chicago • Cincinnati • Cleveland Dallas • Houston • Minneapolis • New Orleans • New York • Philadelphia Pittsburgh • St. Louis • San Francisco IN CANADA: Standard Chemical Limited and its Commercial Chemicals Division

as the reader sees it ...

Tremendous Article

Editor:

After reading the tremendous article, "Synthetic Detergents and Emulsifiers Up-to-Date," July, Aug., Sept., Oct. issues of Soap and Chemical Specialties, I felt aware that we had slipped up by not advising you or Mr. McCutcheon, who prepared the article, that we are basic manufacturers of synthetic detergents and are considerably more basic than many of the companies listed.

Do you believe that Mr. Mc-Cutcheon will have a supplement published in the near future as we certainly would like to be included as a member of our industry?

Presently we are producing both liquids and powders and are selling to several of the larger manufacturers who in turn compound our basic products with other ingredients.

Jim Wheeler, president Essential Chemicals Co. Milwaukee, Wis.

Although every effort is made to

see that Mr. McCutcheon's listing is all-inclusive and that no producer is left out, it is inevitable that some firm migh the omitted. Before compiling this list of synthetic detergents and other surface active agents Mr. McCutcheon makes a complete check of all those known producers. His sources include the Tariff Commission Reports, and others. In addition, because he compiles a continuous card file index of detergent products and producers, Mr. McCutcheon keeps very close check on the ebb and flow of the industry. Other omissions, additions and corrections to his extremely comprehensive listing appear on page 83. To Mr. Wheeler and any others who feel there has been some slip-up, may we suggest that they get in touch with the author directly so that when a new listing is compiled in the future their products may be included.

Reprints of the four-part listing of "Synthetic Detergents and Emulsifiers Up-to-Date" are available in reprint form. In addition to over 60 pages of products listings, there is a list of surface active agents on which infrared spectrograms are available, as well as a complete list of the names and addresses of manufacturers whose products appear in the list. The price of the reprints, which have a heavy paper cover, is \$2.09 for individual copies. They should be ordered direct from the author, John W. McCutcheon, at 475 Fifth Ave., New York 17, N. Y. Ed.

A Word of Praise

Editor:

Please cancel my present subscription when it expires. I am closing out my business and retiring.

May I add a word of praise for your publication which has been a standby for me for many years.

> Gardner Davis RFD #1, Box 20, Clarkston, Wash.

Liability Suit

Editor:

In the August issue of Soap and Chemical Specialties, page 31, you have an item regarding a reversal by an Appellate Court in New York involving liability based on alleged negligence in advertising.

If you are able to furnish us with the name of the case, the name of the Court and about the date when the decision was rendered we would be grateful to you for it.

> Theo. F. Ehler Claire Manufacturing Co. Chicago.

The case of Lehner vs. The Procter & Gamble Manufacturing Co., was decided by the Appellate Term of the New York Supreme Court, First Department on June 2, 1955 when it reversed an earlier ruling of the City Court of New York, Ed.

Skin Disease Book

Editor:

We are anxious to receive a copy of Dr. Louis Schwartz' booklet on the "Prevention of Occupational Skin Diseases," which was announced in the September issue of (Turn to Page 195)

Sales contest to end all sales contests of G. H. Wood & Co., Toronto, Canada, featured among other prizes a real, live 1500 pound steer. Winner George Ayotte, Quebec City, complete with western outfit, holds the beast being presented by G. H. Wood, president. As top salesman in nine weeks "Sky High" contest, which boosted sales 30 percent, Mr. Ayotte also received large silver trophy filled with shining new silver dollars.





HEXACHLOROPHENE-G-11®-and HEXACHLOROPHENE LIQUID SOAP

NOW U.S.P.

We are pleased to announce that hexachlorophene and hexachlorophene liquid soap have been included in the fifteenth revision of the Pharmacopoeia of the United States.

As the discoverer and producer of hexachlorophene, we welcome this further recognition by the medical profession and the privilege of joining the U.S.P. list of best-known and most important

Hexachlorophene liquid soap is the only antiseptic soap recognized by the U.S.P.

G-11[®] is Sindar's trade-mark for hexachlorophene.



Branches: Philadelphia • Boston • Cincinnati • Detroit Chicago • Atlanta • Seattle • Los Angeles • Toronto







OLD: Familiar method used by generations of housewives to gain access to contents of this and similar cleansers.

NEW: Tape seal over pre-punched holes in container's top (center) is peeled back over new arrangment of holes for immediate use.

Bon Ami Holes Its Own

MAJOR change in the packaging of "Bon Ami" scouring cleanser has been accomplished by Bon Ami Co., New York. Familiar packages of the household cleanser are now appearing on retail grocers' shelves with new metal tops in which the holes are already punched.

The holes are sealed with a tab of yellow "Scotch"* brand paper tape No. 256 that peels off easily, yet provides a foolproof seal during shipping, storage and display. The tape is also specially printed for the "Bon Ami" job.

The container is believed to be the first of its kind to incorporate an easy-opening principle without changing the size, appearance or purpose of the container. It is designed to end the need for housewives using potentially dangerous opening tools to gain access to the contents. In fact, no tool or opening device of any kind is needed.

*Registered trade name of Minnesota Mining and Manufacturing Co., St. Paul, Minn. Familiar package for scouring cleanser now available with metal top that has holes already opened. Holes are sealed with tab of printed yellow paper tape.

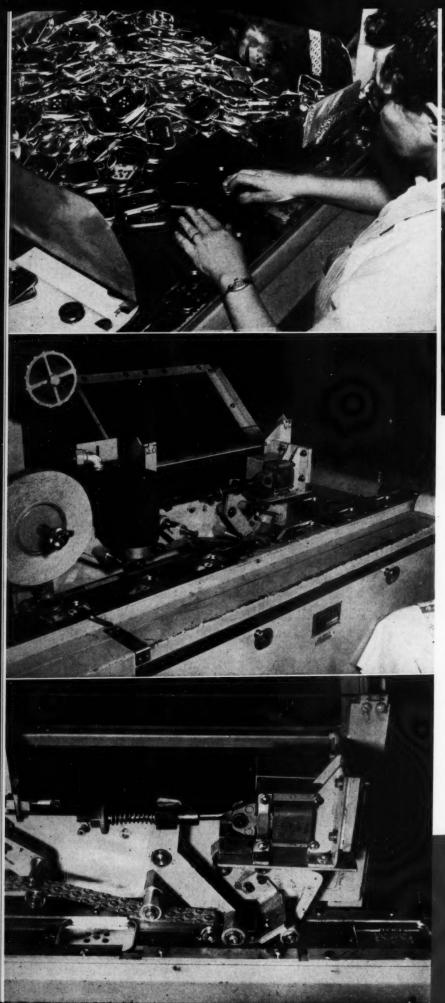
Opening takes only a second or two. The tab is peeled back from the container's metal top-cover. Once off, the cleanser is ready to be freely poured from five prepunched holes.

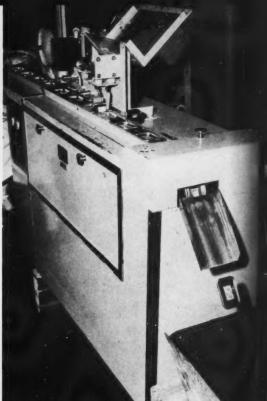
Although full-scale production was launched during the past summer, Bon Ami spent more than a year testing, evaluating, and solving the many physical and mechanical problems before adopting the new closure method. Research was handled by Dr. Daniel H. Terry, and production by Jay E. Rand, vice president in charge of manufacturing.

"We felt," explained Stanley Lewis, the firm's general sales manager, "that such seals were our industry's answer to suggestions from generations of housewives for an improved container — especially one that did not require their pushing in the partially die-cut holes with potentially dangerous household implements. In this respect, we realized the move would lead us into a more expensive package, but we felt it was worthwhile because of the greater customer conveni-

"But, uppermost in our minds," he added, "was the merchandising value that we could gain through pioneering the use of such seals."

Although Bon Ami decided on a printed "Scotch" brand paper tape for the closure material from





Above: Finished covers slide down chute at end of the chain conveyor into hopper leading to the filling floor below.

All Minnesota Mining Photos

the start, the problem of how to use it effectively had to be overcome first.

In the first place, the conventional circular arrangement of eight push-in holes in the existing metal top-cover had to be discontinued. It not only failed to lend itself to tape coverage, but tests and accumulated information on consumer habits disclosed that the average housewife felt she had opened the container sufficiently after pushing in only three or four holes.

This tendency, according to Dr. Terry, plus elimination of the pour-stopping baffles created by the pushed-in holes, were prime factors in the firm's decision to pre-punch the holes completely. By using only half the available holes, he explained, the housewife was actually getting only half the potential free flow of cleanser from the container.

(Turn to Page 181)

application of tape seal, are dumped into hin at left side of taping machine. Whence they are hand fed onto machine's chair conveyor track.

Covers then pass through automatic

Closs-up of taping head in lowers position showing individual tape sea being applied to cover.



Top to bottom, left initial packaging step in forming of this-board container shells done on dual forming machines at bead of each filling line.

As pre-formed shells are carried to capping mechanism by one conveyor line, pre-scaled covers are hand ied onto adfaceut track leading to same capper.

Individual shells and top covers are then automatically joined by top carping machine. Pneumatic tube at right which them over onto conveyor leading to filling machine.

Top to hottom fight Centainers are then Illad with automatically measured embunts of powdered cleaners as they

Filled containing their pass into bottom cappear machine which specia finished products onto packing table from which they are placed in easterns.

Cartene move along conveyes belt for sealing and shipmen or storage.

Optical Brighteners in Detergents

T is known from experience that many textile materials in common use made from natural and man-made fibers are not perfectly white but always show a more or less pronounced yellowish tinge. Thus, for example, textiles of animal origin (silk, wool) or vegetable origin (cotton, hemp, flax, linen, jute and ramie), and manmade fibers produced from cellulose (acetate and viscose rayon) are in their original state always slightly yellowish or brownish; the same applies to synthetic materials obtained by polymerization (Orlon+, PAN+), or by copolymerization, or those materials obtained by polycondensation such as polyesters (Dacron+, Terylene+), and polyamides (Nylon+, Per-

Attempts to eliminate the undesirable yellow tinge were made in very early days, since not only had aesthetic demands to be satisfied, but in many cases the very use of a fabric depended on its whiteness.

Textiles, for instance, were subjected before, after or during manufacture to chemical bleaching. In so doing the undesirable colored components were destroyed, either by oxidation or by reduction, which processes, however, resulted in a certain degree of degradation of the textile materials themselves. Therefore, the degree of bleaching obtainable by this process is restricted to the degree of fiber damage which can be tolerated. Thus, even the most carefully bleached material will show a yellowish tinge.

It is also true that textiles become soiled by use and must be washed from time to time. Residual Research Laboratories, Dyestuffs Department, Ciba, Ltd., Basle, Switzerland

lime soaps and the build-up of minute quantities of iron and manganese salts present in all ordinary water, as well as slight residues of dirt can also impart a yellowish or greyish appearance to textiles which have just been washed. That is why chemical bleaching agents, particularly those containing oxygenated products, were added to many detergents, especially to household detergents. Moreover, hypochlorite is commonly used in industrial and household laundries, especially in the United States.

In addition to purely chemical bleaching, blueing agents, such as ultramarine or indanthrene blue, have for a long time been used in domestic washing. The yellowish tinge on textiles is weakened or even made to disappear by the use of such agents, but the brightness of the light reflected from the material is also diminished, because the blueing agent absorbs a certain proportion of the light, and, at the most, only a pale grey tinge is obtained. There is another drawback: when too much blueing agent is added it causes "overblueing," in which textiles treated have merely changed their tinge from an undesirable yellow to an equally undesirable blue. Thus the blueing method also has its limitations and can only be used with a small measure of success.

Whereas bleaching alone, or bleaching combined with blueing, only partially restores the degree of whiteness of the textiles washed Krais' (1) discovery of optical brightening completely solves the problem. Optical brightening agents are colorless or only faintly colored

substances which, when applied to a substrate, are capable of transforming the short wavelength radiations of daylight or of artificial light invisible to the eye (ultraviolet light) into visible reddish blue to greenish blue fluorescent light of greater wavelength and of re-emitting them. This blue fluorescent light compensates for the undesirable yellow tinge of the textiles and, at the same time, enhances their brightness because "fluorescent dyes" can reflect more visible light than they absorb from the visible part of the spectrum.

The application of optical brightening agents can be carried out in principle in three different ways, viz.:

- a) During the manufacture of man-made fibers; for example, by addition of the optical brightener to the spinning solution or melt.
- b) During the finishing of textiles; after preliminary chemical bleachings, the material is "dyed," that is to say brightened by means of an optical brightening agent, or another possibility is to apply the optical brightener along with a finishing agent.
- c) During laundering; the optical brightening agent is added to the detergent itself or, more rarely, to the washing or rinsing bath.

This third process currently is of considerable importance since it permits continual renewal of the desired degree of whiteness in the textiles. In contrast to soaps, the use of synthetic detergents, both for industrial and domestic purposes, has increased tremendously since 1930. Moody (2), for instance, states that in 1953 the production of synthetic detergents in

By A. E. Siegrist*

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the United States exceeded 910,000 tons for household use, and 136,000 tons for industrial purposes. These figures illustrate particularly the importance of household detergents.

Let us now consider the demands made on optical brightening agents in the detergent industry, in particular those intended for use in domestic and industrial detergents. We have not dealt in this paper with rinsing agents and special detergents with a gentle action for delicate fabrics, since their use is rather limited.

Brighteners in Detergents

TO be suitable for the detergent industry an optical brightening agent must fulfill a number of requirements depending on the properties of the substrate and the detergent and on the conditions of the washing process. These requirements are as follows:

1) Substrate:

a) Suitability for the greatest possible number of substrates: From the dyer's point of view it may seem to be asking too much of a product to be suitable for virtually all types of substrate. However, in view of the fact that the domestic wash has to cope with materials made from a great variety of fibers such as cotton, linen, spun viscose, acetate, wool, silk, and, more recently, nylon, Perlon+, Orlon+, Dacron+, Terylene+, etc. plus fabrics made from mixtures of these fibers, it is not surprising that a desire exists to wash and optically brighten all these materials with a single detergent. That this desire has, in fact, become an essential demand is evident from the figures

*Regd. trade marks.

below published by the U. S. Dept. of Agriculture (3) on the consumption of various fibers in the years 1940 and 1953.

These figures leave no doubt as to the increase in production of man-made fibers (1940: 9.9%—1953: 23.3%). It would be blinking the facts to ignore this development and to use optical brightening agents which are limited in their scope and which are capable of brightening, for example cellulosic fibers only.

b) Degree and shade of the brightening effect: Both the degree and shade of the brightening effect depend on the character of the substrate, the surface of the fabric (dull, lustrous, smooth, rough), the thickness of the fabric or of the yarn, and the type of weave. Moreover, the content of ultraviolet in the incident light is of importance for the degree of the brightening effect; thus, sunlight, which is rich in ultraviolet, is more effective than artificial light which is poorer in ultraviolet rays. Whereas, in past years, the whites obtainable with most optical brighteners have been either too reddish or too violet, there is nowadays, an increasing demand for a more neutral white, and this demand has now been met. However, the shade of the white is assessed differently in various countries and is often assessed differently by various observers. Shade of the white also depends on other factors such as intensity of incident light, which may vary according to the seasons, the time of day, the geographical position, cloud conditions and on the nature of the light reflected from surrounding objects. Finally, the

degree of the brightening effect also depends greatly on the chemical bleaching to which the substrate has previously been subjected, and on the residues left by the washing operation; the better a fabric has been scoured and bleached, the greater is the optical brightening effect.

2) Detergents:

a) Appearance of the detergent: Although not all optical brighteners can be used to enhance the whiteness of soaps or detergents, it is nevertheless essential that those brighteners which are added, not for this purpose, but for brightening the laundered goods, should not impart a yellowish or brownish tinge to white detergents. Moreover, it is important to know that a considerable number of optical brighteners do not withstand the high temperatures of soap during its manufacture, their efficiency being impaired. To-day, the general practice is to incorporate the brightener in washing powders or soap flakes just before spray drying or during the mixing and grinding operation.

b) Resistance to alkalis: Soaps and synthetic detergents, unless they are specially intended for fine lingerie, contain alkalis such as carbonates, phosphates or silicates, which produce the alkaline pH range necessary for washing and which also act as water softeners. It is thus essential that the optical brightening agents show good resistance to alkalis, a requirement which is fulfilled by the majority of products put on the market at the present time. Moreover, on account of their salting out action, the alkalis mentioned often enhance the affinity of the brightening agent, this being particularly desirable when the latter has poor affinity. On the other hand, this salting out is hardly desirable in the case of highly substantive brightening agents, because it would impair the levelness of the brightening effect and, on repeated laundering, can produce an undesirable accumulation of brightener on the fiber.

	1940		1953	
	Million lbs.	%	Million lbs.	6%
Cotton	3959	80.6	4519	69.1
Wool	407.9	8.3	485.8	7.4
Acetate and viscose fibers	482	9.8	1222.9	18.7
Synthetic fibers	5	0.1	300	4.6
Silk	_	_	7.8	0.08

- c) Resistance to per bleaching compounds: In general, the resistance of commercial optical brighteners to chemical bleaching agents yielding oxygen such as perborates, percarbonates, persulfates or hydrogen peroxide, is adequate and in certain cases, even very good, as will be shown later. In certain cases, the degree of the brightening effect may be enhanced by peroxy bleaching agents which may be present in the detergent, even though fluorescence intensity of the optical brightener is slightly weakened. Discoloration by peroxy bleaching agents occurs only when optical brighteners are used which are insufficiently stable towards peroxy bleaching.
- d) Resistance to chlorine bleaching agents: Since in the United States, sodium hypochlorite is widely used in the washing liquor in commercial laundries, and, more recently, in domestic washing too, it is essential that an optical brightener be resistant to chlorine. As will be shown, this requirement is fulfilled (see below) only by a very small number of these products, the majority being destroyed in washing liquors containing chlorine. In all cases it is advisable not to add any sodium hypochlorite at the beginning of the washing process in order to give the brightener time to be absorbed by the fiber before the chlorine begins to take effect. Experience has shown that the action of the chlorine is much weaker once the brightening agent is fixed on the fiber.
- e) Action of high molecular phosphates: High molecular phosphates, such as tripolyphosphates, are finding increasing use in detergents, especially in household detergents. These high molecular phosphates act primarily as water softeners but also possess dispersing properties. They prevent precipitation and deposit of lime soaps, these having an adverse effect on the even uptake of the brightener. As has been shown elsewhere, (4) these high-molecular phosphates have a favorable influence on the uptake of optical brighteners.

3) Washing process

- a) Solubility: It is a fact that the solubility of various optical brightening agents in water varies greatly. If solubility is good, the product can be applied in the washing bath or in the rinsing bath; on the other hand, if solubility is low, application is only possible in the washing liquor. Contrary to the opinion, (5) that optical brightening agents sparingly soluble in water can be used only in boiling wash liquors, it is possible, in many cases, that the detergent brings about dispersion of the sparingly soluble brightener even at low temperatures, and thus permits its absorption by the fiber.
- b) Affinity and Levelling: Optical brighteners are required which are capable of being absorbed by the fiber at temperatures ranging from about 50°C. to the boil. However, exhaustion should not proceed too rapidly in order that level results may be obtained. Too high a substantivity, for example, may, after repeated washing, result in an undesirable accumulation of the optical brightener on the fiber which, in turn, may produce faint coloration. Once the optimum degree of brightening has been obtained, ideal conditions exist when the amount of old brightener stripped by subsequent washing processes is equivalent to that of fresh brightener absorbed. Another good reason for an optical brightener not having too high an affinity for the fiber is that the prescribed amounts of detergent are seldom used, particularly in domestic laundering.
- c) Other Factors: In addition to solubility and dispersibility, affinity for the fiber and levelling property, other factors play an important part in optical brightening. These are the nature of soiling, the time during which the goods are allowed to soak, the time they are in the heated washing liquor, the extent of rinsing, the liquor ratio, the temperature at which the brightener is applied and the amount of detergent used. However, we shall not discuss these factors in detail. A

word also about the fastness to light of the brightening effect. Although the majority of optical brighteners do not withstand sun bleaching, their fastness to light is generally satisfactory, particularly if the fact is taken into account that personal linen is seldom exposed to light for any length of time and that bed linen is usually only exposed to diffused light. Furthermore, the proportion of optical brightener which might have been destroyed by light can be replaced in the next wash. However, one requirement which is all-important is that the action of light does not decompose the brightener into colored products which would increase the inherent yellowness of the material.

Finally the question arises as to whether the short wave length absorbed by the optical brightener does not damage the fiber since it is rich in energy. It has been shown (6) however, that this need not be feared for the very good reason that the concentration of optical brightener on the fiber is much too low.

Having discussed the main properties required of optical brighteners in the detergent industry, let us consider the suitability of a number of these products for this application.

Behavior of Brighteners

A CERTAIN number of optical brighteners were prepared, and tested for effectiveness when applied by exhaust methods and washing processes specially selected to suit the various substrates. The following substrates were used: cotton, spun viscose, acetate, wool, and nylon, all these substrates having been previously bleached chemically. In addition to this, the action of agents yielding oxygen and chlorine on the brightening effect was investigated when washing cotton.

a) Application: We would point out that the quality of the various substrates used was the same for all tests, and that the substrates were previously bleached in a suitable manner.

Exhaust method: Concentra-

			1		
SUBSTRATE	COTTON	SFUN VISCOSE	RAYOR	MOOT	BATOR
BRIGHTENED	liquor 1:30, 30 min., 20° C., 20% Ma ₂ SO ₄ . lo H ₂ O.	liquor 1:50, 30 min., 200 C., 20% Mm ₂ SO ₄ , lo H ₂ O.	liquor 1:50, 30 min., 50°C., 4% HCCOM.	liquor 1:40, 50 min., 60° C., 45 MCCOM.	liquar 1:40, 30 min., 600C., 45 mccom.
b)	+ 2 g Mm ₂ CO ₃ /1.	liquor 1:30, 30 min., 50° C., 5 g.somp + 2 g Hm ₂ CO ₃ /1	liquor 1:50, 30 min., 500 C., 5 g.soap/1.	liquor 1:30, 30 min., 50 ° Co., 5 g. somp/1	liquor 1:30, 50 mim., 50°C., 5 g. soat/1.
	Criss Call Cits Cit Cit	one 0.0 cm c1 c3	sime and sime and six	eim ein ein ei	am an al az
O-ME-CEs SO _S Ha 2					
30 ₃ Ma] ₂	V				
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C-RE-CE-SO_NA S-CE-SO_NA S-CE-SO_					
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C-WE - CE:					
C-MI - CMS 8 8 8 9 3 8 8 8 9 8 8 8 8 8 8 8 8 8 8 8					
H CH-	•				
	BRIGHTENED BY b) on in er cent cut	A) 20° C., 20° Ma_2SO_1 lo H_2O. BY liquor 1:50, 50 min., 99° C., 5 g.nonsy + 2 g Ma_2CO_1/1. On in jer cent SO_MA 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	a) 20° C., 20° Ma_500_4. lo H_2O. BY liquor 1:50, 30 min., 50° C., 5 g.soap 50° C., 5 g.s	BRIGHTENED 200 C., 200 Ba, 20, 10 E, 0. BY 1	20 R I G H T E E E D 20 G., 2

tions of optical brighteners used ranged from 0.003 to 0.3 percent (calculated on the weight of substrate). Liquor ratio 1:30 to 1:10. Time of application, temperature of

bath and additions were chosen to suit the substrate. Cotton and spun viscose were treated at 20°C. with an addition of 20 percent Glauber's salt. Acetate, wool, and nylon were treated for 30 minutes at 50-60°C, with an addition of four percent formic acid 86 percent.

Washing process: Cotton (Turn to Page 179)



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Perfuming

ammonium and triethanolamine salts find wide application in liquid types.

These salts nearly always have a characteristic odor of lauryl alcohol. Although great pains are taken in manufacture to hold the content of unreacted lauryl alcohol to a minimum, enough usually remains in the salt to create an odor that must be neutralized in the finished product.

Coconut Oil Bases

W HEN the detergent is prepared from a natural source such as coconut oil, slight variations in odor occur due to the presence of small amounts of the lower alcohols. Such non-uniformities are common in any natural product and cannot always be compensated for in the processing operation. When the salts are prepared from petroleum-derived alcohol, other by-odors originate from impurities formed in this process. These impurities are present in minute amounts and are difficult to isolate, but are probably branched chain iso C₁₂ alcohols.

The odor of straight C12 alcohol is actually not too unpleasant, but enough people find it objectionable to make masking desirable. The lauryl alcohol note blends well with citrus, floral and aldehyde type perfumes, and the degree to which it is hidden is in large measure proportionate to the amount of added fragrance. The less pleasant offodors in the detergent are more difficult to combat, for they do not blend. The solution then is to blanket them with sweetening agents such as the crystalline products, or to flatten them with resinous notes, or to simply overwhelm them with powerful agents such as the spice oils. Thus the perfumer has several

ERFUMING of shampoos, like many other aspects of their manufacture, has been a controversial subject among producers. Some favor a scented product, others one that is completely odorless just as some prefer liquid, liquid-cream or cream types. However, there is probably unanimous agreement, that the product should be free from the characteristic malodors of its base materials.

Avoiding for the moment the argument as to whether shampoos should or should not have a positive fragrance, it is a fact that perfume employed as a masking agent is a practical and economical way to achieve complete freedom from byodors.

The three general types of shampoo in wide use today—soap, soap-detergent combinations, and detergents without soap—all present individual odor problems. With the decline in popularity of the old-fashioned coconut oil potash soap, the by-odors of various detergents are those most frequently encountered by the perfume chemist.

By far the most widely used of these base materials today are the salts of sulphated lauryl alcohol. Stable, unaffected by calcium present in hard water and capable of producing the large volume of lather which consumers associate with good detergency, the sodium salt lends itself to use in cream and liquid-cream shampoos while the

starting points for the design of a variety of effective blends.

In the lower-priced shampoos malodors of base materials may be quite pronounced. In such cases the perfume chemist may employ a musky floral type of odor as a counteractant and then add to it a light note to impart a pleasant fragrance to the product.

The finished shampoo formulation is prone to a further group of offensive by-odors. Yeasty or moldy odors appear, often very rapidly, in unpreserved and unperfumed shampoo creams, and once this note has developed, the product is ruined from a sales stand-Formaldehyde has been found to be the most desirable additive to prevent this deterioration. Although many perfume materials have sufficient fungistatic properties to inhibit mold growth in unpreserved cream for months, a preservative should nevertheless be used.

In addition, the formulation will contain other materials that are not completely bland. Thickening and conditioning agents, such as the alkanolamine fatty acid condensates and lanolin or its derivatives, add to the sum total of base odor, presenting a complex of by-odors that requires neutralization. Still other ingredients, such as fixed oil, mineral oil and opacifiers, have a diluting and weakening effect which also must be taken into account in establishing the necessary amount of per-

fume. Because of the inability to hold base odor absolutely constant in practical production, some manufacturers use a percentage range for their perfume additions; a greater amount is added to the poorer batches so that coverage and fragrance volume are maintained.

However perfumes may be utilized, whether as masking agents or to add fragrance, the materials used must be carefully selected to insure that no problems of coloration, discoloration or clouding arise during shelf-life. Some latitude is afforded the perfumer by the fact that many of the shampoo products now on the market are acidic: where indicated by the odor problem, he can employ such materials as vanillin, eugenol and esters which would either discolor or hydrolyze in ordinary soap.

Fragrance Adds Appeal

MANUFACTURERS' opinions differ regarding the desirability of perfuming a shampoo, as distinguished from masking off-odors. Some believe that, since a shampoo is a functional preparation designed solely to cleanse the hair, it should be completely odorless and should leave the hair and scalp likewise odorless. While the writer as a perfume chemist is admittedly biased, a good case can be made for the opposite view: that the perfuming of a shampoo adds considerably to its consumer appeal and, in a

sense, to its effectiveness.

With scores of shampoos bidding for the consumer's nod, many of them closely similar and even "out of the same pot," fragrance may be a decisive competitive advantage. Fragrance makes a favorable impression at the time where it counts most-when the consumer opens the package for the first time . . . and it will continue to make a delightful impression as long as the product is used. Perfume thus becomes an asset both in introductory merchandising and in the repeat sales that accrue from tangible evidence of good performance.

Perfume Qualities

OBVIOUSLY, the perfume used to impart this fragrance must be carefully designed for its special purpose. It should not be over-assertive, yet the concentration must insure sufficient deposition to yield a noticeable effect. That effect can be achieved only by skillful formulation with persistent notes of the correct tone.

The perfume in a shampoo should have a fresh, clean character. This attribute of cologne and lavender types suits them quite well to the scenting of shampoos. If florals are the choice, heavy, oversweet or cloying types like gardenia or heliotrope should be avoided. In the fantasy category, it is better to steer clear of seductive, animal-like notes.

(Turn to Page 203)

Skill in Perfuming Offers Most Practical Way to Mask Detergent Odor; Fragrance Adds Sales Appeal

Richard Redwood Deupree

IFTY years is a long time to work for any company. It is particularly impressive when more than 31 of those years are spent in top positions ranging from general sales manager through president and chairman of the board of directors. The feat, if such it may be called, is all the more remarkable when the company is the leader in its field. Not to be lost sight of either is the fact that the field, one of the most competitive in a highly competitive economy, has undergone what amounts to a revolution in the products it has been marketing in the 10 years since the end of World War II.

Such is part of the record of spare, dark and now graying, 70-year-old Richard Redwood Deupree, board chairman of Procter & Gamble Co., Cincinnati, founded in 1837. "R. R.," or "Red," as a few of his close friends, including the President of the United States, Dwight D. Eisenhower, call him, probably achieved the peak of his

life of accomplishment, in 1930, when he became the fourth president of P & G. This appointment, which Mr. Deupree regards as "the most satisfying" job he has held with the firm, gives some gauge of the man's abilities when it is understood that his formal schooling ended with his completion of the sixth grade of grammar school at age 12.

Seven years after he was compelled to terminate this schooling because of the economic necessity of helping to support his ill father and seven other Deuprees, Richard Deupree joined Procter & Gamble Co. as an office boy in the treasurer's department of the company in 1905. Previously, he had begun his business career as an office boy with an insurance agency for one dollar a week. Later he served as an errand boy and general aide to a haberdashery, and in 1901 went to work for the Cincinnati and Covington Street Railway Co., counting nickels, as he puts it, al-

R. R. Deupree's

though his company bibliography listed the job as "clerk," until the year 1905.

Richard Redwood Deupree was born in Norwood, Va., May 7, 1885, the son of Richard Overton and Elizabeth Redwood Deupree. Eight children, four boys and four girls were born of this union, one son and a daughter of which died in childhood. Richard was the fifth of the eight children. The family name dates back to a Frenchman, William Du Pre, who settled on the shores of Virginia early in the 1700's. Mr. Deupree's father was a salesman of gas mantles. The Deupree family moved to Covington, Ky., just across the Ohio River from Cincinnati when Richard Deupree was still a youngster.

Starts as Office Boy

S TARTING as an office boy in the treasurer's department of P&G, the future president was soon promoted to the cashier's cage. Here, he is reported to have first come to the attention of Thomas H. Beck, then head of what was known as the Soap Chip Department. Mr. Beck was impressed by the fact that Mr. Deupree was "the first cashier I've ever known who smiled when he gave out money." He remembered Mr. Deupree in 1909 when his department needed another salesman.

Mr. Beck's confidence was well rewarded. Mr. Deupree began selling on the road to laundries, hotels and textile mills. He compiled an impressive sales record from the beginning although Mr. Deupree feels that he was never a "natural" salesman. These early contacts with actual consumers made a deep impression on him, and one that he was never to forget.

50 Years with Procter & Gamble

This possibly helps to explain his (and P&G's) development of market testing almost to a science.

Although subject to the normal fears, qualms and nervousness in calling on prospective customers, he persevered and by putting in longer working hours than most of his competitors established a very creditable sales record. This seems to be putting it mildly, for in a year and a half after making his first sales call he was appointed head of Soap Chip Sales, succeeding Mr. Beck. Soon after (1912) he switched to Case Goods as manager of the Western Sales Division.

The following year he was married to Martha Rule. They had four children, Richard, Jr., John, James, and Betty, now Mrs. Richard Goldsmith. Two of Mr. Deupree's sons are now with Procter & Gamble. John is in the advertising department and James in manufacturing. Richard, Jr. is a lawyer. Mrs. Deupree died in 1943, and Mr. Deupree remarried in the following year Mrs. Emily Powell Allen.

In 1917, at the age of 32, Mr. Deupree was chosen general sales manager. It would be difficult to imagine a more inauspicious time to assume such a post. Prices and markets were turned topsy-turvey by the entrance of the United States into World War I, and by virtue of its production of glycerine P&G had become an important factor in the production of munitions. The return to "normalcy" following the end of hostilities a few years later was a similarly critical time for the entire soap industry, what with fast declines in oils and fats prices and related problems of inventory. These were not Mr. Deupree's only problems, however. In his new post as general sales manager, he worked

closely with the then president of Procter & Gamble, William Cooper Procter, whose belief in the importance of year-round employment in an industry characterized by sharp seasonal production fluctuations was Mr. Deupree's job to translate into reality as the well-known Guaranteed Employment Plant.

Before the early 1920's Procter & Gamble, like most similar companies, sold only to wholesalers who did most of their buying on a seasonal basis. Factories had to operate on a "hurry-up and wait" plan, concentrating all of the manufacturing in the weeks just before these periodic demands and then laying off the great majority of workers until the next flurry of buying and manufacturing. Naturally, there was a big turnover of employees. To provide steady jobs and steady production, P&G first had to stabilize the demand for its products. Sales were the first problem before manufacturing problems could be licked.

Based on the fact that consumers used soap at about the same rate throughout the year, Mr. Deupree went ahead with the plan to stabilize production. He completely changed sales methods, enlarged the sales force to sell directly to retailers as well as wholesalers. The change was effected gradually, beginning with a test area in the East and broadening the area to include all of New England and eventually the entire country. The transformation was completed in 1923. The direct selling idea, pioneered by Procter & Gamble, has been adopted by most soap companies. Since that time all P&G employees with two or more years of service are guaranteed 48 weeks of work each year.

In commenting on this plan, Mr. Deupree said, "... the steady employment plan is ... the greatest

Mr. Deupree cements granite cornerstone of new P&G headquarters building in place on last May 26, which marked his 50th year with the firm.



single factor—even greater than profit sharing—in producing good relationships." In addition to its other benefits, P&G offers its employees a profit sharing plan, and a pension plan.

Even during the depression years, P&G continued to provide a full work schedule for its employees. When business dropped sharply, the company instituted its own private enterprise version of WPA, and workers cut lawns, repaired factory buildings and painted fences until conditions improved. As a result of its progressive employment plan there has not been a major strike in any of the company's plant in over 60 years.

Mr. Deupree has held fast to his belief in producing for the consumption line rather than buying line. When retailers are uncertain of the future and shrink inventories, P&G arranges for its own storing facilities and continues manufacturing at the normal rate. On the other hand, the company refuses to spur output because of buying hysteria.

The year after the stabilized employment policy was put into effect Mr. Deupree was made a member of the board of directors. Three years later he was named general manager, and in 1928 he was appointed vice-president and general manager. When he was elected president in 1930 the precedent of lineal leadership which had existed since William Procter and James Gamble formed the soap and candle company in 1837 was broken. Procter was the first president. He was succeeded in office by his son, William A., who, in turn, was followed by his son, William Cooper, who held the office until Mr. Deupree took over.

In summing up his years as president and chairman of Procter & Gamble, Mr. Deupree expressed his belief that a large part of the capital-labor difficulties of the nation stem from the lack of popular comprehension of the profit system. Part of this he blames on management. "We've been so busy running the economy that we haven't taken time to explain," is the way he puts it. He, himself, devotes considerable time, thought and effort toward giving all Procter & Gamble employees a broad understanding of the problems facing the company and the management methods used to solve them. Since most

of the employees are also stockholders under the profit-sharing plan set up by William Cooper Procter at the turn of the century, Mr. Deupree has an opportunity at semi-annual Dividend Days to talk about earnings under what might be described as ideal conditions.

An illustration. In a report in January, 1949, he told employees: "The remarkable thing to me is that we have had profits and dividends regularly for those 60 years. There was only one really bad year for the company, as some may remember, back in 1920-21, and two not-sogood years in 1932 and 1938. But I don't believe that our record in turning regular annual profits into useful money - into profit-sharing dividends and into plants and research over these 60 years-can be matched by any other business in America. Our profits were as regular as our wages, and we made good use of them.'

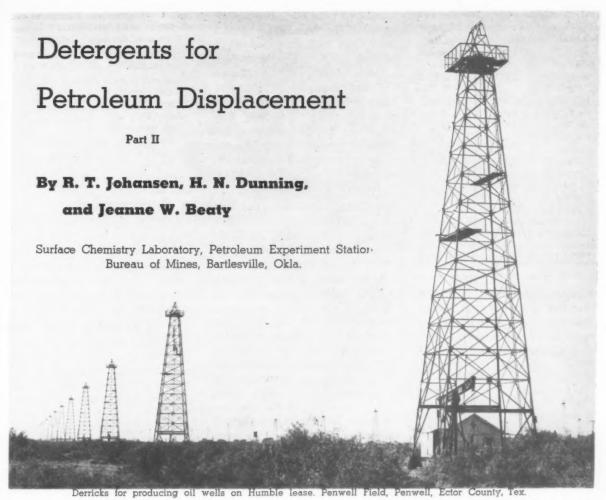
"The reason that I stress profits is that I think sometimes profits are taken for granted. There's a feeling current in the country that it is easy for business to make money. Don't let anyone fool you on this! About half of America's corporations fail to make a profit in any one year. This can be true of the soap business as well as any other business. I said last year and I say again that I don't believe there are 100 manufacturers left in business who produced soap some 40 years ago. It is true that some new firms have sprung up, but some 300 firms, in our own industry, have gone out of business in that 40 years and their employees went down with them."

As with many other executives, Mr. Deupree was called into government service as the threat of World War II became increasingly apparent. In 1937, he was appointed a member of the Business Advisory Council and three years later he became a member of the War Production Board as Chief of the Agriculture and Forest Products Division. At various times during the war he also served with

(Turn to Page 205)



Mr. Deupree looks on as workmen put New Hampshire granite cornerstone in place. A ceramic tablet in 43 languages, among other things, was placed in metal box in cornerstone.



Standard Oil Co. (N. J.), New York, photo

ARLIER studies (3) showed that the only type of surfaceinactive substances that were effective in oil displacement were the polyamine acetates (EDTA). The results obtained were of sufficient interest to prompt further investigations of the substances. Later studies with different sands and oils indicate a slightly lower value than that listed previously (3). However, "Sequestrene Na-4" still is surprisingly effective considering its lack of surface activity. The displacement efficiencies and pH values of some typical examples of this class of compounds are listed in Table 4. A rather direct dependence on basicity is observed. It appears that the efficiency of these complex substances in oil displacement depends largely on the basic hydrolysis of

the salts. This, of course, is no reflection on their notably high chelating and sequestering power.

The detergent displacement efficiencies as determined in this and earlier investigations ^(3, 11), are summarized in Table 5.

Displacement efficiencies of 120 monionic detergents ranged from 1.02 to 1.38. The average value was 1.26 and the average standard deviation 0.05. The standard deviation was decreased considerably in the present investigation by using individually prepared oil-sand samples. In the earlier studies no attempt was made to change the effectiveness of the nonionic detergents by adding builders (3, 11). However, the use of such substances would reduce the cost of formulations considerably. Therefore, some

of the more effective nonionic detergents were prepared in built formulations. The effects of using builders with nonionic detergents are shown in Figure 1. The average displacement efficiency of 108 pure nonionic detergents was 1.25 and for 12 built formulations was 1.30. The average displacement efficiency of the pure nonionics used in these formulations was 1.29. The average quantity of oil displaced by water under the conditions of this investigation was 2.08 ml. The original quantity of oil in the sand sample was 2.70 ml. Therefore, the maximum possible displacement-efficiency value is 1.30 plus the experimental error. Nonionic detergents having an optimum balance of polyoxythylene chain length (water-soluble) and alkyl phenol (oil-soluble)

Table 3.—Displacement Efficiencies and pH Values of 0.1 wt. Percent Inorganic Solutions.

Doi discussi		
Solution	рН	Displacement efficiency
		-
Water	6.6	1.00
NaCl	6.6	1.05
HC1	1.5	1.07
Na ₅ P ₃ O ₁₀	8.0	1.10
Na ₂ SO ₄	6.6	1.12
NaOH	11.0	1.15
Silicate of		
Soda N	8.3	1.20
Silicate of		
Soda D	10.5	1.22
Silicate of		
Soda RU	10.9	1.24
Hydrated sili	icate of	
Soda	12.0	1.26

*Water and solutions saturated with air at atmospheric pressure.

will displace virtually all of the oil. Therefore, a slightly higher maximum displacement-efficiency value was observed in other studies where water displaced less oil⁽³⁾.

These test conditions do not afford a means of determining whether or not the builders increased the efficiencies of the nonionic detergents, because the nonionics in pure form displaced virtually all of the oil from the sand. However, the data illustrated in Figure 1 show that efficiencies of the detergents are not decreased by adding as much as 90 percent of carefully selected builders. The high concentration (0.1 wt. percent) of the solutions may have masked the effect of dilution with inorganic substances. However, another study (4) show ed that a formulation containing 85 percent polyphosphate was essentially equal to the pure detergent at concentrations as low as 0.01 wt. percent. It appears that the cost of using polyoxyethylated nonionic detergents as flood-water additives can be decreased by using certain basic builders in the formulation.

The displacement efficiencies of 35 anionic detergents tested range from 0.97 to 1.30 and average 1.12. As previously observed ⁽⁸⁾, the anionics generally were inferior to the nonionics. Built formulations of certain of the anionic detergents (for example, dodecyl benzene sul-

fonate) are quite efficient in displacing oil. The "Nacconols," "Tide," and "Ahcol 350" were observed to be about as effective as the average nonionic detergent (3). "Aerosol OT" and "Santomerse 1" also were found to be effective. These detergents were thought to be fairly representative of formulations commercially available. Therefore, the numerous commercial detergent formulations were not investigated individually.

The cationic detergents tested had low oil-displacement efficienies. The "Ethomeens" are classified as cationic detergents but, because of their content of polyoxyethylene chains, are mainly nonionic in their behavior. The average displacement efficiency of six "Ethomeens" tested was 1.25. Thus, they are about as efficient as the average nonionic detergent. The average displacement efficiency of 12 cationic detergents tested, omitting the "Ethomeens," was 1.08. With the exception of the silicates, the nine inorganic substances tested were generally ineffective for displacing oil. The phosphate was moderately effective (Table 3). The average displacement efficiency of nine inorganic substances was 1.16. Figure 2 compares the average displacement efficiencies for all detergents

Table 4. — Displacement Efficiencies and pH Values of 0.1 Wt. Percent Solutions of Polyamine Acetates.

or roryamme Ace	tates.	
Solution	рН	Displacement efficiency
Ethylene triamin	e peni	ta-
acetic acid	2.5	1.08
Perma Kleer 50°	9.8	1.17
Perma Kleer 80°	9.9	1.17
Sequestrene		
Na-4ª	10.1	1.21
Versene		
Regular*	11.3	1.26

aTetrasodium salt of ethylene diamine tetraacetic acid.

tested. Nonionic polyoxyethylated detergents with cloud points of 40° to 70° C. were generally more effective than detergents of similar composition with cloud points beyond these limits. These results corroborate previous conclusions (3).

Some strict economic limits are imposed upon the use of detergents as additives in water-flooding operations. Because of the large volume of water that must be treated, the detergent must be inexpensive, and it must be effective at low concentrations. If possible, a detergent that would replace part of the chemicals in the usual chemical treatment should be chosen. A recently conducted field test revealed that the cost of the detergent required to treat the input water effec-

Figure 1. Comparison of displacement efficiencies of nonionic detergents.

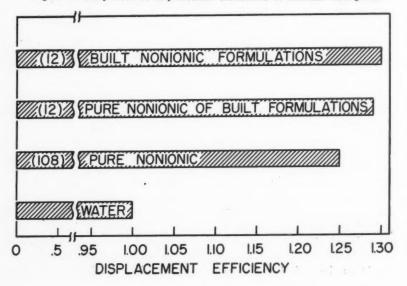


Table 5.—Summary of Detergent Displacement Efficiencies.

Detergent	Previous ^{3,4} report	Present investigation	Total	
NONIONIC				
Number tested	54	66	120	
Ave. displacement efficiency	1.24	1.27	1.26	
Ave. std. deviation ANIONIC	.08	.02	.05	
Number tested	20	15	35	
Ave. displacement efficiency	1.09	1.15	1.12	
Ave. std. deviation CATIONIC ^a	.08	.03	.06	
Number tested	4	8	12	
Ave. displacement efficiency	1.01	1.12	1.08	
Ave. std. deviation	.08	.02	.04	

aDoes not include Ethomeens.

tively increased the cost of chemical treatment by 0.4 cents per barrel. Many water floods are operated on a small margin of profit and this added expense may be the difference between financial success and failure. The logical answer to this problem apparently is to use a built detergent formulation which would have a high displacement efficiency at about one-third the cost of the 100-percent active ingredient. One of the efficient anionic detergents fortified with the proper builders probably would be the least expensive. However, such formulations may require higher concentrations

than those of the nonionic detergents and may react unfavorably with the concentrated brines used as injection water in many floods. In general, the nonionic detergents are more expensive than the anionic ones, but the displacement tests show that they are effective in formulations containing only five to 20 percent of the active ingredient.

Conclusions

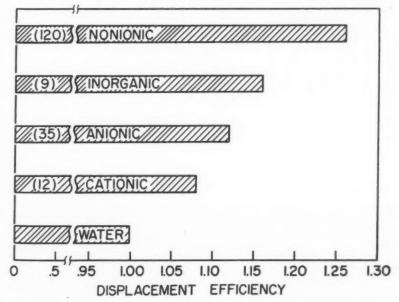
1. The efficiencies with which 89 detergents and nine inorganic compounds displace petroleum from sand were determined. A total of 120 nonionic, 35 anionic, and 12 cationic detergents have been studied in the Bureau of Mines detergent-evaluation program.

- 2. The surface tensions and cloud points of the detergent solutions were determined. Values of displacement efficiency, surface tension, and cloud point are listed, together with the composition, trade name, and physical forms of the detergents.
- 3. Except for heavy-duty anionic formulations and the "Ethomeens," anionic and cationic detergents were generally ineffective for oil displacement. The silicates and polyphosphates, commonly used as builders in commerical formulations, were moderately effective for oil displacement. The polyamine acetates, such as EDTA, were effective for displacement only in basic solution, and the few other inorganic substances tested were generally ineffective.
- 4. Nonionic detergents, because of their high displacement efficiencies in a pure form or in built formulations, appear to be the most promising as water-flooding additives. Furthermore, the nonionic molecule is compatible with substances common to injection and connate water.

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Figure 2. Comparison of displacement efficiencies for all detergents tested.





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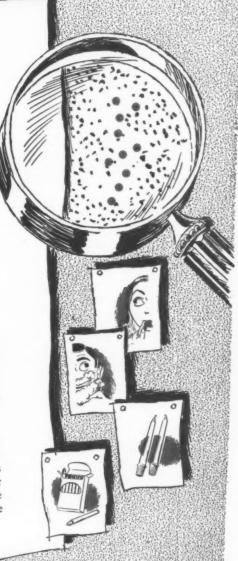
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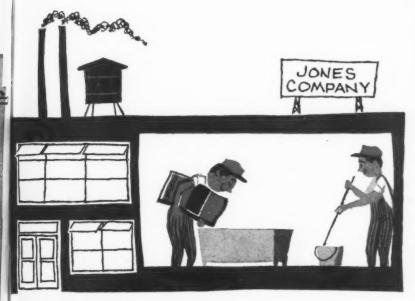
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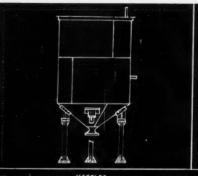
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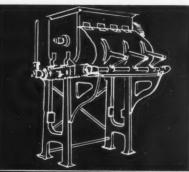
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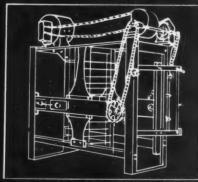
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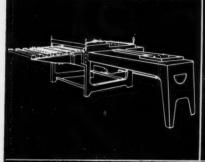
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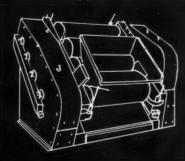
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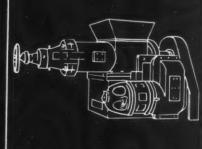
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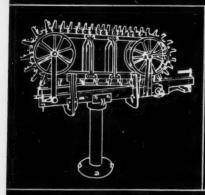
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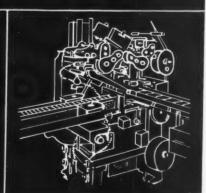
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N the chemical specialties field today, such products as soap powders, scouring powders, synthetic detergents, specialty cleaners, hand soaps, rodenticides, household and industrial insecticides, powdered bleaches, laundry starch, tooth powders, talcum powders, sweeping compounds, dishwashing compounds, water softeners, bath salts, bubble bath products and others are all blended to form the finished product. For an example, in the manufacture of powdered abrasive soaps, powdered soap may be blended with borax, pumice, sawdust, fine corn meal or other abrasive agents to form the finished product. Another example is in the manufacture of laundry starch, in which starch is blended with improving agents such as borax, sodium sulfate, sodium chloride, tragacanth, wheat starch and others.

Blending of these dry, granular or powdered solids is generally easier than other types of mixing. The mixing action depends on the the various particle sizes, distribution of the different particle sizes in the blend, particle shape and specific gravity. If the particle sizes vary too much, the smaller particles tend to sift through the larger particles and settle out. However, the main purpose of dry mixing in the chemical specialties field is to form a uniform mixture of the various materials in the finished product.

Basically, the action is one of tumbling and rolling. In hand mixing of cement, the products are piled one on top of the other and then cut and repiled until the products are uniformly distributed throughout each other. To mechanize this operation, the sand and cement may be placed in a barrel, which, upon being sealed at both

ends, is then rolled around on its side, or end over end. In either case, the materials are continually tumbled and rolled around inside the drum, until uniform blending is accomplished.

Rolling a barrel around by hand is not practical, so mechanization is called for. The barrel may have a shaft affixed to either ends or sides and then be attached to a motor-driven arrangement, rotating the barrel mechanically. A more advanced model is the double-cone type. These are more effective than the tumbling barrel type and their action is more gentle on the product being blended. This is a most satisfactory type of dry blender.

Operating on a different principle is the auger type dry blender. The material is poured into a hopper and then carried upward by means of an enclosed screw or auger. This carries the material to the top of the enclosing tube where it is scattered by means of a sweep so that it falls uniformly back down

T HIS is the fifth of a series of articles discussing types of machinery and equipment used in the manufacture, processing and packaging of soaps, detergents, and such chemical specialties as floor waxes, disinfectants, household and industrial insecticides. spot removers, deodorants, floor cleaners, polishes, laundry bleaches, moth specialties, rodenticides, shave products, sweeping compounds, tooth pastes and powders. glass cleaners, dish washing compounds, etc. The main purpose of this series is to present the latest types of machines and equipment available to the soap, detergent and chemical specialties manufac-

turer in his daily plant operations.

the outside of the tube where it is again fed upward by the auger.

The most widely used type of dry blenders are ribbon mixers. These consist of a trough with a rounded bottom in which revolves a metal agitator of the spiral ribbon type. The agitator is designed so that the material is forced ahead of it as it revolves, thus piling the material up at one or both ends of the mixing trough. Here the material is carried back to the center by a smaller spiral agitator mounted within the larger spiral agitator. Probably the main reason for the wide use of this machine in mixing is because of its versatility-it may be used for dry products, liquid products, and light paste products.

In dry mixing the main problem is to keep the material dry. If any of the materials to be blended are wet, they tend to "ball up" while being mixed and do not blend properly in the finished product. If liquid is to be added during the operation, then a drum or double cone mixer may prove to be unsatisfactory. In such instances, the ribbon mill may be the best type of machine. However, some double cone blenders are equipped with a disintegrator wheel within the blender to prevent the formation of large agglomerates during mixing.

Following are illustrations and descriptions of equipment manufactured by leading suppliers of dry mixing equipment. Because of space limitations we are restricted in the number of machines of each manufacturer that could be illustrated. However, most of these companies manufacture a complete line of dry mixing equipment.

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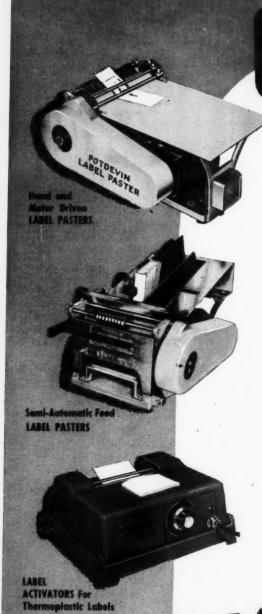
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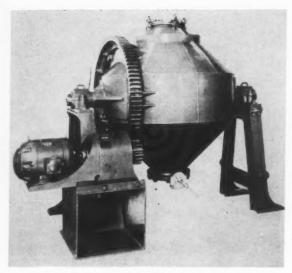


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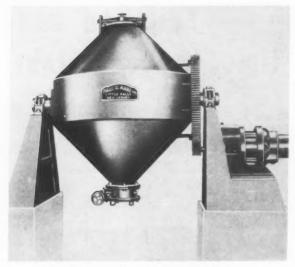
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Abbe Engineering's double conical blender.



A double cone blender of Paul O. Abbe, Inc.

5t., New York manufactures a line of dry and paste mixing equipment.

Illustrated is an Abbe double conical blender. This machine is built in the shape of two cones mounted on a cylindrical ring rotating on trunnions. Available in two styles, "BS", which is the smaller sizes up to and including those of three inch diameter and equipped with a type "A" roller chain drive and geared head motor and "GPH", which range from 3'6" up are provided with semi-steel gears with machine cut teeth. The smaller "BS" models have capacities ranging from 1.7 to 14.0 cubic feet while the larger model "GPH" ranges from 22 to 77 cubic feet. "BS" models have electric motors ranging from 1/4 to one horsepower driving the blender at speeds of from 30 to 18 rpm. The "GPH" models have electric motors ranging from two to 15 hp driving the blender from 16 to 10 rpm.

The double cones and cylindrical portion can be constructed of steel, stainless steel, monel, nickel, bronze or any clad alloy. All seams are welded and polished. The charging end of the blender is equipped with a quick-opening cover that is held in place by swing bolts. At the opposite end of the blender is a large, dust-proof butterfly valve which permits rapid discharge. The larger style "GPH" models can be furnished with the Abbe inching type motor drive equipped with a magnetic motor mounted brake and start-stopinching push buttons. This permits "inching" the blender to the exact position for loading and discharging.

Paul O. Abbe, Inc., 145 Center Ave., Little Falls, N. J. manufactures a line of paste and dry mixers, jar mills, ribbon mixers, double cone blenders and barrel rolling mills.

Illustrated is a double cone blender. These blenders are available in approximately 17 different sizes ranging from nine inches to 120 inches in diameter. The total volume in cubic feet ranges from .2 for the nine inch model to 500 in the 120 inch model. The maximum operating capacity in cubic feet ranges from 0.14 for the nine inch model to 325 for the 120 inch model. A 1/6 horsepower motor drives the nine inch model, while a 50 hp. motor is used with the 120 inch model. The shipping weights range from 70 to 11,500 pounds for the different models.

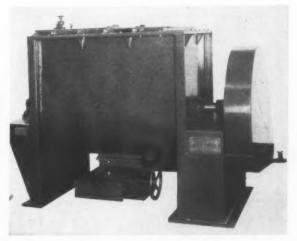
The standard outlet for blenders 42 inches and smaller is a slide gate valve; for larger blenders, it is a butterfly type valve. Motor drive for the nine and 12 inch models is a gear reduction unit; from 18 to 42 inches a roller chain and gearhead motor drive is used. Large blenders are equipped with a machine cut gear and pinion and gearmotor drive. (See illustration) Other types of drives can be furnished, if desired. The machines can be made of various metals such as aluminum, stainless steel, monel, bronze, etc. Plastic and rubber linings can be furnished.

Also available for dry mixing are

the spiral blade or ribbon mixers. Suitable for dry, liquid or paste mixing, these machines can be had with different types of spiral blades - a single continuous spiral blade, double spiral blade with mullers suitable for rubbing out soft lumps and preventing balling up of the material when a small amount of moisture is present, double spiral blades and single split spiral blades. Ribbon mixers come in 18 different sizes ranging from model "O" with a mixing volume of 0.1 cubic feet or 0.6 gallons, driven by a 1/4 hp. motor at a shaft speed of 75 r.p.m. to model "16", which has a mixing volume of 186 cubic feet or 1400 gallons, driven by a 30 hp. motor at a shaft speed of 20 r.p.m. Shipping weights range from 150 pounds to 9300 pounds, depending on the model.

Baker Perkins, Inc., Saginaw, Mich., manufactures a complete line of laboratory mixers, universal mixers, vacuum mixers, dispersion mixers, ball mills, industrial ovens and other types of chemical processing equipment.

Standard batch blender of Baker Perkins, Inc., Saginaw, Mich., comes in variety of horsepowers and sizes.



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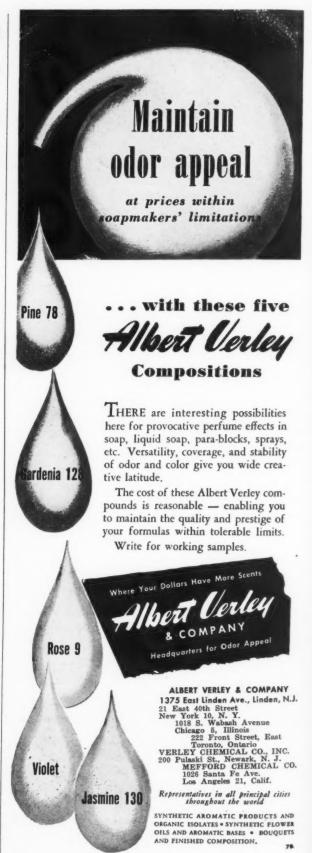
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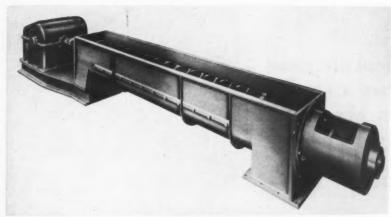
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Type M open trough "Ko-Kneader" unit of Baker Perkins, Inc., Saginaw, Mich. It mixes dry and semiplastic materials and comes in capacities up to 700 cubic feet per hour.

The Simplex mixer, for handling dry materials, has a working capacity of 300 gallons, total capacity of 450 gallons. The machine is jacketed for 80 psi of steam pressure. It is driven by a 10 hp., 15 r.p.m. geared head motor. The agitator is of the Simplex type, which is the spiral blade type. This sweeps material alternately from the middle to the ends of the trough and from ends to middle.

For continuous dry mixing, "Ko-Kneaders" are available. Operating on the principle of a worm blade revolving in a trough, the material is fed into the trough and forced forward until it comes to a kneading tooth. As the blade passes the kneading tooth, it forces a part of the material with it and leaves part behind. This process is repeated along the entire line of the trough as the blade passes each kneading tooth, which working with the gaps in the

worm blade, acts as a single mixer. The repetition of this operation as the material moves along the trough results in a thorough blending job.

Three models are available, for light, medium and heavy duty mixing and kneading. Type K, of the closed trough construction with a heating or cooling jacket, comes with interchangeable kneading teeth. Type M, an open trough unit for mixing dry and semiplastic materials, has capacities up to 700 cubic feet per hour. Type P, of closed trough construction, mixes extremely viscous material. Standard equipment includes a heating or cooling jacket. Capacity of this model is up to 3500 pounds per hour.

Illustrated is the standard batch blender. It is available in a variety of sizes and horsepower ratings. Standard sizes are available in working capacities ranging from five to 1000 gallons. J. H. Day Co., Cincinnati, manufactures a complete line of paste and dry mixers, change-can mixers, roller mills and related equipment.

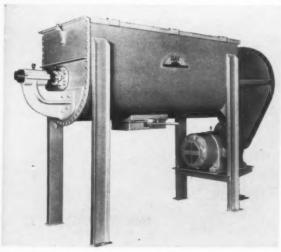
Illustrated is a Day ribbon blender, model D-10. This mixer has a working capacity of 36 cubic feet or 270 gallons, is driven by a 10 hp. motor with agitator speed of 5 r.p.m. Model D-10 comes in six other styles ranging in capacities from five cubic feet or 37 gallons to 62.5 cubic feet or 465 gallons with motors of from 1½ hp. to 15 hp.

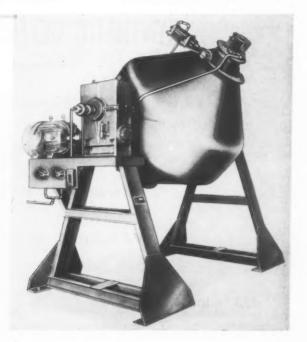
These models may be had with steam or cooling jackets, flush valves, anti-friction bearings, entire blender body of galvanized iron or stainless steel, revolving brush pre-sitters, and sanitary packless seals. They may be equipped with different type agitators, however, the cut-out style ribbon agitator is suitable for most applications. In this operation, the outer spiral carries the product from both ends toward the center, while the inner spiral carries the material from the center toward the end. At the same time, there is a radial tumbling action. Inasmuch as the outer spiral is on a larger radius and carries more material, there is a continuous over lap and transfer of material from one end of the tank to the other.

For larger capacities, Day makes jumbo mixers. The roller bearings are mounted on heavy fabricated supports. Heavy duty units have an extra outboard bearing to eliminate cantilever action on drive. Agitators for jumbo mixers have a laminated outer ribbon, which is continuous welded and ground smooth. The outer ribbon has a relieved trailing edge to eliminate excessive rubbing. Tanks may be equipped with heating or cooling jackets for 40, 60 or 80 pounds pressure. Hand wheel or air operated flush valves are available as

Double cone blender of General Machine Co. of New Jersey, Newark, is shown at right.

Model D-10 ribbon blender of J. H. Day Co., Cincinnati, bottom left.







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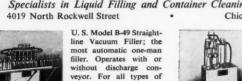
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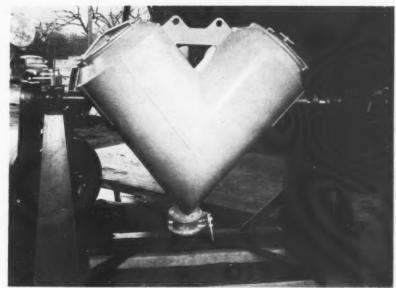
General Machine Co. of New Jersey, 398 Market St., Newark, N. J. is the manufacturer of the "Gemco" conical blender and the "Gemco" spherical valves.

Illustrated is the "Gemco" double cone blender, which is made in a wide range of sizes, and having working capacities of from 5.63 to 200 cubic feet. All controls are in one group. The operator is able to pin-point the hopper's position by merely pressing an "inching" button. The addition of a high-speed serrated wheel within the blender is claimed to break down any lumps or balls caused by the formation of hydroscopic material or the crustation of dry materials on moist material.

The addition of a high-speed "Gemco" rubbing device called the "Muench" mixer reduces the materials being blended to any desired degree of fineness. The device consists of two grooved disks which are adjustable from $\frac{1}{12}$ 8 to $\frac{1}{1000}$ 0 of an inch. One disk is operated at high speed, the other at low speed. The material is induced through the feed cups on the high speed disk and is rubbed between the lands and grooves of the disks.

lands and grooves of the disks.

The "Gemco" blender is fitted with a self-cleaning, positive action, dust-tight valve. The spherically designed seat and disk, with their metal to metal contact, are produced to close tolerances for complete interchangeability, and to prevent characteristic dry valve problems such as sticking and sifting. The valves can be made to operate manually or by remote-controlled air or motor, in sizes from three to 24 inches. As the valve closes, the sharp-edged disk rotates to its close mating fit on the seat with a shearing action which enables it to slice its way through obstructive crystals and fibres. With each closing and opening, the disk wipes the seat clean before powders can build up to cause sticking and sifting. Not only available on the blenders,



Twin shell blender with intensifier bar of Patterson-Kelley Co., East Stroudsburg, Pa.

the valves can be used on hoppers, screw conveyors, ribbon mixers and pipelines and are made to customer specifications.

Munson Mill Machinery Co., Utica, N. Y., manufactures a line of rotary batch mixers and rotary knife cutters. Illustrated is Type 7 rotary batch mixer. This machine is equipped for gravity intake and discharge. There are no internal bearings. The machine consists of a double cone drum rotating horizontally. Bolted or welded to the inside wall of the drum are lifter arms. These lifter arms cut out and lift up portions of the material. As the drum revolves, these lifters continually change their angle causing a further tumbling action inside the lifters. The drum is driven by a V-belt from the motor to the mixer countershaft through a gear reduction unit. The motor speed is 1200 r.p.m. and the drum turns at nine r.p.m.

This batch mixer is available in seven different sizes ranging from 30 to 150 cubic foot capacities. Horsepower requirements range from five hp. for the 30 cubic foot capacity to 20 hp. for the largest unit.

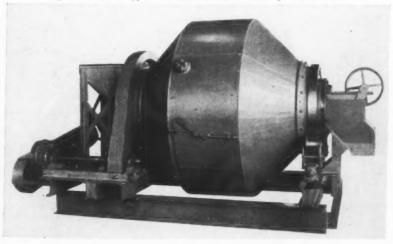
The batch mixers can be equipped with an internal spray pipe to introduce a limited amount of liquid (not over five percent). The machine will not grind nor further reduce the size of any of the ingredients.

The discharge spout extends within the mixing drum, terminating at this point, in a discharge hopper directly under lifters. During charging and mixing, this opening is covered by a discharge plate. For discharging, this plate is moved outward and the mixture then flows through the discharge hopper and out the discharge spout. This is available in either manual or remote controlled units.

Patterson-Kelley Co., 111 Warren St., East Stroudsburg, Pa., produces a complete line of dry blenders, including twin shell dry blenders, standard double cone and ribbon blenders. These units are available in laboratory, pilot plant and commercial production sizes.

Illustrated is a twin shell blender with intensifier bar. There are also standard "DD" twin shell dry blenders, standard GD models, and trunnion feed twin shell blenders with fixed hopper connection. Besides the four and eight quart laboratory models, which feature transparent plastic shells, Patterson-Kelley twin shell blenders for commercial production come in the following standard dimensions and capacities: Type DD, work capacity, one to 20 cubic feet; discharge size, four to eight inches; horsepower of motor, 1/4 to 3; r.p.m. of blender, 30 to 16.5; maximum density, 65 to 165. Type GD twin shell blender: work capacity, 30 to 150 cubic feet; discharge size, 10 to 12 inches;

Rotary batch mixer Type 7 of Munson Mill Machinery Co., Utica, N. Y.



CAPEM SCREW CAPPERS

Speed production for Texize Chemicals, Inc.



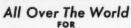
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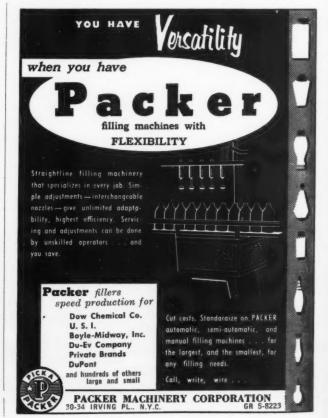
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horsepower of motor, three to 10; r.p.m. of blender, seven to 14.7; maximum density, 50 to 65. Twin shell blenders with intensifiers: work capacity, one to 75 cubic feet; discharge size, four to 12 inches; blender motor horsepower, 1/3 to 71/2; r.p.m. of blender, 11 to 30; int. motor horsepower, 1/3 to five; int. r.p.m. 830 to 1970; maximum density, 50 to 125. Trunnion feed twin shell blenders: work capacity, 10 to 75 cubic feet; discharge size, eight to 12 inches; blender motor h.p., two to 71/2; blender r.p.m., 11 to 20; screw size, nine to 12 inches; screw motor h.p., 1/3 to 3/4; maximum density handled by screw, 100 to 135.

Patterson-Kelley DD double cone blenders come in working capacities of from one to 20 cubic feet and in discharge sizes of six and eight inches. Other specifications include: motor horsepowers of from ½ to five; r.p.m. of blender, 23 to 41; and maximum density of from 55 to 100. GD double cone blenders are available in the following specifications: working capacity 30 to 150 cubic feet; discharge size, 10 and 12 inches; motor h.p., five to 25; r.p.m. of blender, 14 to 21 and maximum density 50 to 60.

"TAD" ribbon blenders of this firm come in work capacities ranging from one to 40 cubic feet, with inlet sizes and outlet connections of from three to eight inches, r.p.m. of ribbons 41 to 68 and having motor h.p. of from 3/4 to 10.

Pfaudler Co., Rochester, N. Y. manufactures a complete line of dry and liquid filling equipment, glass-lined equipment and glass lined blenders.

Illustrated is a new glass lined conical dryer-blender for product testing. Standard units are available in four diameters — two, four, six and eight feet, with volumes ranging to 150 cubic feet working capacity. Internal pressures range from full vacuum to 20 p.s.i.

The test equipment is a scale model, so that experimental work gives reliable indications of the results which may be anticipated. The new dryer-blender can be used for every acid except hydrofluoric, and for alkalies up to pH 12. The glassed steel inside resists adherence, and thus not only reduces clean-up losses and labor, but improves heat transfer. The possibility of metallic contamination is eliminated.

In operation, the dryer revolves slowly to provide rapid drying and blending. Hot water or steam is circulated through the jacket to promote drying, with a vacuum exhaust to remove vapors. The jacket of standard units is rated to accomodate pressures up to 40 p.s.i. with full vacuum in the vessel.

Applications for use of a test unit are available on request to the project engineering department of Pfaudler Co. One unit will be located at the company and the second unit will be available for testing in the client's plant.

Rapids Machinery Co., 889-11th

Street, Marion, Ia., manufactures a complete line of dry material mixers. The "Marion Standard Mixer" handles all kinds of dry material mixing no materier how complicated a formula. It has heavy duty ball bearing construction throughout. The mixing cylinder shell is available in 14, 12, or 10 gauge steel, as desired, with strongly welded heavy steel ends. Shaft is 2 7/8 inches in diameter with plow steel mixing blades mounted on semi-steel arms.

For the heaviest materials, Rapids Machinery manufactures the industrial mixer recommended for the high density mixes and blends. Both mixing shell and ends are constructed of heavy 1/4 inch plate for maximum durability.

(Turn to Page 99)



New glass lined conical blender of Pfaudler Co., Rochester, N. Y.

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The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication. Complete copies may be obtained by writing to the publisher of this magazine, Mac Nair-Dorland Co., 254 W. 31st Street, New York 1, N. Y., and remitting 50c for each copy desired. For orders received from outside of the United States the cost will be \$1.00 per copy.

No. 2,717,243. Non-Caking Alkyl Aryl Sulfonate Detergent Composi-tions, patented by Herman S. Bloch, Chicago, and George L. Hervert, Downers Grove, Ill., assignors to Universal Oil Products Co., Chicago, Ill. A comminuted detergent composition is described comprising a free-flowing water-soluble mixture of finely divided solid particles of: (1) an anionic detergent selected from the group consisting of the alkali metal, ammonium, alkyl ammonium and hydroxy-alkyl ammonium salts of an alkyl aromatic sulfonic acid containing an alkyl group of from about 9 to about 18 carbon atoms; (2) an alkyl benzene sulfonate salt of a metal selected from the group consisting of magnesium, calcium, strontium, barium, aluminum and zinc, the lest mentioned salt having an alkyl the last-mentioned salt having an alkyl group of from 1 to about 18 carbon atoms and being in sufficient amount to prevent caking of said detergent, and (3) a sufficient amount of a sequestering agent to enhance the solubility of the last-mentioned sulfonate salt. The composition is further characterized in that said sequestering agent is an alkali metal, molecularly dehydrated complex phosphate salt.

No. 2,717,851. Polycyclic Insecticidal Compounds, patented by Rex E. Lidov, Denver, Colo., assignor, by mesne assignments, to Shell Development Co., Emeryville, Calif. The patent covers a compound of the group consisting of (1) 1,2,3,4,10,10-hexach-loro-1,4,4a,5,8,8a-hexahydro-1,4,5,8-dimethanonaphthalene having a melting point when pure of approximately 240° C., its (2) 6-acetoxy-6,7-dihydro, (3) 6-hydroxy-6,7-dihydro, (4) 6-keto-(3) 6-hydro, (4) 6-keto-6,7-dihydro, (5) 6,7-dihydro, (6) 6,7-dichloro-6,7-dihydro, (7) 6-bromo-6,7-dihydro, (8) 6-chloro-6,7-dihydro, (9) 5-methyl, (10) 6-methyl, and (11) 9methyl derivatives.

No. 2,719,160. Production of Fungicidal Cyclohexadienone Deriva-tives, patented by Friedrich Becks, Bad Duerkheim, and Oskar Flieg, Limburgerhof, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. The patent teaches a process for the pro-duction of fungicidal products which comprises heating to reflux a solution of hexachloro-cyclo-hexadiene- (1,4-one-(3) with a secondary amine selected from the group consisting of pyr-rolidine, piperidine, lower dialkyl-amines and N-methallyl-cyclo-hexyl-

No. 2,717,850. Disinfecting and Cleansing Solution for the Human Skin, patented by Adolf Schmitz, Essen, Germany. The patent protects an aqueous disinfecting and cleansing solution for the human skin in which the active disinfecting agent consists of a water-soluble acid salt of a high molecular amino acid having the formula:

C12H25 · NH · CH2CH2NH · -CH2CH2NH·CH2COOH

said solution having a pH correspond-

ing substantially to that of the skin.
No. 2,717,828. Herbicidal Compositions, patented by Gail H. Birum and Arthur H. Schlesinger, Dayton, O., assignors to Monsanto Chemical Co., St. Louis, Mo. A herbicidal composi-tion is covered comprising an oil-inwater emulsion of a compound having the formula

in which X is selected from the class R, R' and R" are selected from the class consisting of hydrogen, alkyl radicals of from 1 to 5 carbon atoms, chlorine and the nitro radical.

No. 2,717,899. Aminoalkyl and Quaternary Ammonium Alkyl Esters of o-Aroyl Benzoic Acids, patented by George E. Cronheim, Bristol, Va., and Norman H. Leake and Marvel L. Fielden, Bristol, Tenn., assignors to The S. E. Massengill Co., Bristol, Tenn. The patent discloses the compounds having the general formula:

wherein R is phenyl substituted in the ring with at least one group selected from the group consisting of chlorine, nitro and lower alkyl, and R₁ is selected from the group consisting of dilower alkyl-amino-lower alkyl and tribover alkyl-amino-lower alkyl-am lower alkyl quaternary ammonium lower alkyl, said compounds existing in a form selected from the group consisting of the γ-keto ester, the γ-lactone and a mixture of said two forms.

No. 2,719,129. Pressurized Liquid Room and Air Deodorant Composi-tions, patented by Earl L. Richardson, Elkhart, Ind., assignor to Colgate-

Palmolive Co. Disclosed is a liquid room and air deodorant composition maintained under pressure in a con-tainer and consisting essentially of a liquified normally gaseous low molecular weight halogenated hydrocarbon propellant and a quaternary morpho-linium alkyl sulfate in which the alkyl substituent has 8 to 24 carbon atoms per molecule as a deodorant in suitable proportion to effect air dedorization when released from said con-tainer, said deodorant being present in an amount in excess of its solubility in said propellant, and an amount of partial ester of a polyhydric alcohol and m higher fatty acid having about to 24 carbon atoms per molecule sufficient to assure solubility of said deodorant in said propellant.

Anti-corrosive Coating

The latest in rust inhibitive organic coatings is described in the September issue of Horse Head Bulletin, publication of New Jersey Zinc Co., New York. The new corrosion inhibitive coat is zinc-rich paint, pigmented 100 percent with zinc dust, and containing selected plasticized polystyrene and chlorinated rubber as the vehicle.

Plant Maintenance Show

The Plant Maintenance and Engineering Show will be held in the East for the first time since 1952, it was announced recently by Clapp & Poliak, Inc., New York, show management film. The seventh show is scheduled to be held at Convention Hall, Philadelphia, Jan. 23-26, 1956. Prior to its public announcement 236 companies leased 302 exhibit booths, with a total of 400 exhibitors being anticipated.

Concurrently with the show the Plant Maintenance and Engineering Conference will be held.

The current trend toward automation shifts emphasis from operation to maintenance, making it a wider field than ever, according to Saul Poliak, producer of the show.

Stearates Bulletin

Typical analyses and methods of analysis for "Aero" brand metallic stearates were published recently by American Cyanamid Co., New York. The nine-page brochure is available from the Cyanamid's chemicals department, 30 Rockefeller Plaza, New York 20, N. Y.

FAMOUS LIGHTHOUSES OF AMERICA



PORTLAND HEAD LIGHTHOUSE, Maine, was built between 1787 and 1790
by two Portland masons engaged by George Washington, who instructed them
to use rubblestone taken from fields and shores. During the Civil War,
when raids on shipping required sighting the light from
greater distances, the tower was raised 8 feet. Today it stands 80 feet
above land and 101 feet above water at the southern entrance to
Portland Harbor. It is one of the four Colonial lighthouses
that have never been rebuilt.

A Landmark of Quality in the field of electrochemicals is the name Niagara Alkali Company. First to produce several of these important chemicals in America, Niagara is a pioneer in their development and application. You can rely on Nialk® Liquid Chlorine, Nialk Caustic Potash, Nialk Carbonate of Potash, Nialk Paradichlorobenzene, Nialk Caustic Soda, Nialk TRICHLORethylene, Niagathal® (Tetrachloro Phthalic Anhydride).

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PRODUCTION Clinic

By E. G. Thomssen, Ph.D.

ONSIDERABLE safety hazards arise from the handling of many base materials and finished products and from certain processing methods. In the chemical specialties field correct safety practices and caution are essential in building up a good safety record. Education of the operating employee in correct safety procedures is important but not enough. Responsibility for accident prevention rests on everyone holding a supervisory position, from executive to foreman.

Safety committees exist in most plants. While making periodic surveys of hazards inherent in plant construction and machinery, members sometimes overlook the correct storage, handling, and disposal of hazardous chemicals. Ignorance of the risks involved or rashness bred by familiarity may cause blinding, crippling or fatal personal injuries and fires and explosions causing severe property damage. Explosions are apt to occur where volatile flammable liquids are mixed with air in enclosed tanks. A man who lit a cigarette while cleaning a closed tank which had contained a product of high alcohol content was blown 20 feet across the floor through a tank manhole in the author's presence. Fortunately no serious consequences resulted. On another occasion a foreman sent a worker into an empty kerosene storage tank without first displacing the air in the tank either with water or fresh air. The man was rescued, though unconscious.

Apart from general safety measures the worker in the chemical and allied fields must learn safe practices in the handling of toxic chemicals, the disposal of dangerous residues, the handling of compressed gases, flammable products, pressure processing, and vacuum equipment.

Toxic chemicals are defined as those which adversely affect normal functions of the human system by ingestion, inhalation, or contact with the skin. Toxic or injurious substances met frequently in our field include acids, alkalis, chlorinated hydrocarbons and certain other solvents. The poisonous characteristics of these and any other chemicals should be known to those who handle them. Where and when danger exists, antidotes, gas masks, protective clothing, goggles, shower baths, eye fountains and hoods with efficient exhaust fans should be stringently employed. In case of accidents, proper treatment must be applied promptly. Manufacturers of toxic raw materials place warning labels on their packages. These labels should be read and the directions meticulously following in every case.

Laboratory workers who use more hazardous chemicals than factory workers, are apt to become careless and should be periodically warned to use care or they may cause violent explosions, injure their eyes by irritants, maim their hands, be affected by cumulative poisons and injure their lungs. The increased use of radioisotopes has introduced new hazards. A thorough knowledge

Dr. E. G. Thomssen



of how to handle and dispose of these is a "must." Another precaution to be insisted upon is that all bottles, whether they contain harmful substances or not, must be accurately labelled. Too frequently laboratory accidents have occurred through neglect of this rule.

Incorrect disposal of waste chemicals may cause accidents to humans in or near a plant, as well as to equipment. The most common method of disposal is to mix waste materials with water and run them into the sewer lines. This is an easy, but careless, method unless the residues are positively known to be harmless. Certain substances like acids or alkalis ought to be neutralized when feasible, before being thus disposed of. Flammable liquids, not miscible with water, should be collected and safely ignited in a suitable manner. If miscible with water, they should be well diluted with about ten volumes of water, before being disposed of. Greases mixed with water should be run through a grease trap and the accumulated waste grease buried in a trench or burned in a furnace. Sewers can be stopped up and city sewage disposal plants put out of order with waste greases if these precautions are ignored.

Stream and air pollution are adequately covered by growing preventive legislation. Quantity and kinds of waste must be closely watched to avoid a clash with these rules.

Certain processing operations require the use of compressed gases or liquids, which usually come packaged in steel cylinders. Detailed instructions on their safe handling are supplied by the manufacturers and must be observed to avoid severe accidents. Here are some of the most important rules in this field: tank and reducing valve should be cleaned of all dirt before the tank valve is opened; the valve must be directed away from the workman, as it is opened very slowly; it should never be hammered if the valve sticks; it should be opened with a proper wrench; the



SHELF LIFE CLARITY

Producing a liquid soap with sparkling clarity is one thing. Keeping it that way on the shelf is another. Research shows that almost invariably, the cloudiness that spoils both appearance and profits in liquid soaps, shampoos, and similar products stems from the metallic ion contamination.

VERSENE GUARDS AGAINST CLOUDINESS

When you add the correct amount of the right Versene (organic chelating agent) compound to the saponification mixture, complete protection against cloudiness is achieved for the life of your soap product. Versene adds many other important advantages, too: lighter color, prevention of rancidity and color change, inhibition of deposition of silica when soap is stored in glass; "built-in" hard water resistance and often, elimination of the chilling process.

VERSENE ADVANTAGES FOR YOU

Versene's complete stability in both hot and cold solutions, throughout the pH range, and guaranteed uniformity of chelating power make it invaluable in the manufacture of soap and soap products. When metallic ions interfere with the quality, appearance or efficiency of your product, specify a Versene. Twenty-five years of experience in chelate chemistry are at your command. For further information, write to Dow.



THE DOW CHEMICAL COMPANY



cylinder must be tagged correctly; excessive rise in temperature during storage must be guarded against; 120°F. is the usual danger point; cylinders are to be stored away from flammable substances. Care must be taken in handling so as not to let them fall or be heavily jolted; if cylinders must stand up they should be supported; a pressure reducing valve is to be used when opening the needle valves; and suitable gauges are required. These cautions may seem elementary, but safety demands a thorough understanding of them.

Pressure and vacuum processing equipment also are dangerous in the hands of a novice or careless operator. Incorrect use of such equipment is a common cause of accidents. A proper relief valve in both cases will go far toward preventing accidents and pressure and vacuum gauges are necessary. Testing of equipment by competent engineers and the setting of a proper safety factor must be insisted upon. Such inspections should be made periodically, on the same basis as boiler inspections. These are but a few of the general precautions. Each piece of pressure or vacuum equipment ought to be gone over carefully before it is put into operation. The builders of such equipment are best versed as to safety measures and are willing to cooperate in setting up safety precautions.

Accidents in plants, storerooms, laboratories, among maintenance men and nearby neighbors, are easily reduced by observing greater care and by eliminating carelessness based on sheer good luck in the past. It takes but one accident to inflict serious damage to the human body or to the plant.

Emulsion Aids

N ATIONAL Lead Co., New York 6, is offering two emulsion aids, Ben-A-Gel and Bentone 34. Ben-A-Gel is designed for water and oil and water emulsions, dispersions, suspensions and mixtures. It possesses unusual thickening action which prevents hard settling, heat thinning and separation,

thus stabilizing emulsions. As it is an organic compound, it does not deteriorate. Bentone 34 is especially valuable for water-in-oil emulsions, by improving them in consistency and resistance to temperature changes.

Both products are being used in toiletries, insecticides, cleaners, polishes, shampoos, greases and similar items. Further full use information may be had by writing the company.

Pocket Cutting Tool

A COMBINATION tool, the Markutter, is sold by the Markut Tool Co., Pittsburgh 22, Pa. It comprises a standard drawing crayon and a precision cutting blade in a lightweight, tubular aluminum body. Both crayon and blade are retractable. The tool is provided with a pocket clip to prevent loss, and to stop it from rolling down a sloping surface.

The device finds many uses in all types of offices, factories, and receiving, packing and shipping rooms. The cutter blade can be adjusted to the thickness of a carton or case, to protect the contents from damage as the container is opened. The crayon can then be used to mark prices, code costs, lot numbers, or other identification upon the items as they are packed.

The cutting blade can be kept sharp always, for the dull end of the blade can be broken off at an angle to present a new corner and edge for use. The crayon can be used down to the last quarter-inch. It is sold directly by the company.

Viscous Liquid Evaporator

EVAPORATION of heavy, viscous liquids to extremely high concentrations has been achieved by the development of a new Roto-Vak Concentrator built by Buflovak Equipment Division of Blaw-Knox Co., Pittsburgh, Pa. The evaporator was developed for processing heavy viscous materials that are heat sensitive. In certain processing, for example, it is now possible to increase the concentration from a former maximum of 26 percent to 40 percent.

Features of the new equipment are its simplicity, an important factor in cost, maintenance and cleaning, and the speed of passing materials through the unit, which prevents or minimizes decomposing or degrading of heat sensitive material by prolonged heating or high temperatures. Materials are concentrated in one passage through the unit.

The Roto-Vak Concentrator is built in a wide variety of sizes and specifications of materials and accessories also depend on conditions of use. Buflovak pilot plant testing service is available as a guide in setting up optimum specifications.

New Change Can Mixer

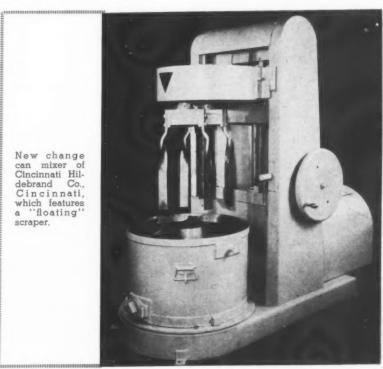
A new change can mixer featuring a "floating" scraper was introduced last month by Cincinnati Hildebrand Co., Cincinnati. Suitable for toothpaste and similar bodied materials the unit is equipped with a special scraper positioning device. As the can rotates on the mixer platform the device rides along the edge of the can, guiding the scraper blade and forcing material from the inside edge into the

mixing area. The machine features double paddle agitators, with blades extending to the bottom of the can, forcing material at the bottom up into the mix.

The new mixer is available in two models, vertical raising and tilting head, and in sizes ranging from eight to 150 gallons capacity. Handwheel for raising head, roller bearings; complete enclosure; heavy bronze thrust plate; convenient lubrication; heavy paddles, and an independently mounted motor are other features mentioned by the manufacturer.

Wyandotte Alkanolamine

The research department of Wyandotte Chemicals Corp., Wyandotte, Mich., recently announced availability of "Monolene" brand of N - (2-hydroxypropyl)ethylenediamine. "Monolene" can be used in the production of cationic surface active agents and resin intermediates, and is suggested for possible use in insecticides, oil additives, textile finishes and other specialties. The new product, which is a clear liquid, is currently offered in pilot plant quantities. Data on chemical and physical properties are available.





RESEDALIA

AN ACETAL

PHYSICAL APPEARANCE:	Colorless liquid; APHA 10 Max.
ODOR TYPE:	Floral; resembles Reseda Mignonette.
SOLUBILITY:	10 parts soluble in 100 parts 70% Ethyl Alcohol.
STABILITY:	Very stable in neutral and alkaline media
REFRACTIVE INDEX:	1.4972 (R.I. n 20 D
SPECIFIC GRAVITY:	$\frac{20}{20}$: 1.0020
SUGGESTED USES:	1% to 5% in formulation of floral odors for perfumes, creams, powders and soaps. As addition, ¼% to 1%, to existing compounds to round off and improve odor character.
QUALITY:	Held to rigid specifications by our control laboratories; carefully analyzed by the most modern methods, including infra-red absorption.

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VERONOL • FLOWER OIL WHITE LILAC

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PRODUCTS

Aromatics Division

VERONA CHEMICAL COMPANY

Plant and Main Office: 26 Verona Avenue, Newark, N. J. 1210 Rosedale Avenue, Chicago, Ill.

Products and PROCESSES

Sulfates Built-In Bleaches

Bleaching and softening qualities of soaps and detergents in powder, paste, cake or liquid form are improved by the addition of organic sulfates. No chlorine or sodium hypochlorite is added. Spanish patent 215,175, Antonio Soms Roig and Benito Soms Bonas.

— ★ — New Polishing Compound

Gloss and water repellency are imparted to varnished surfaces, automobile parts, nickelchromium- plated surfaces, marble, glass, plastics, leather, etc. by compositions prepared by emulsification of certain polymers with fat- and water-soluble emulsifiers and passing the mixture through a colloid mill. The polymer can be an organic silicon compound or some other suitable material. The emulsifier consists of one to 10 percent by weight of an ethylene oxide derivative or a polyalcohol monostearate. The product contains 50 to 90 percent water. Spanish patent 217,085, Poliplast S. L., Chem. Abstracts, vol. 49, p. 13674.

Wool Wax Alcohols Uses

Wool wax alcohols improve emulsifying properties of many soaps. They are used in toilet soaps as superfatting materials. Additions ranging from 0.26 to 0.5 percent are said to improve appreciably the properties of the final product and to make the lather fine and persistent. The alcohols are soluble in aqueous soap solutions which in turn can be used as solvents for certain hydrocarbons. Lists of cosmetic ingredients capable of increasing viscosity of soapless shampoos include wool wax alcohols. These fatty alcohols are obtained by total saponification of wool fat, followed by extraction and purification of the unsaponifiable portion which is rich in cholesterol and other non-ionic surface active agents. Edgar S. Lower, Croda

Ltd. Snaith, Goole, Yorks., in Soap, Perfumery and Cosmetics, Oct. 1955, pp. 1128-9.

New Lab Spray Dryer

Bowen Engineering, Inc., North Branch, N. J., recently announced a new spray dryer, designed for laboratory and small lot production work. This new dryer, which has greater drying capacity than the table model features a conical bottom drying chamber and offers a choice of either nozzle atomization or centrifugal atomization or both.

The dryer is especially suited for drying operations on heat-sensitive materials. Total treatment time is a few seconds from the time the solution or slurry is fed to the atomizer where it is forced into a whirling vortex in the drying chamber, until the dry solids are deposited in the "Pyrex" product receiver. Special patented air inlets in the drying chamber side-wall permit shock-cooling of ultra heat-sensitive materials.

The Bowen conical labora-

tory spray dryer incorporates an automatic temperature and flame-failure safety system. Two dial type thermometers are furnished as standard equipment and insulated stainless steel construction is used wherever the product comes in intimate contact with the dryer. Said to withstand rugged service, the unit is designed for rapid disassembly and easy cleaning.

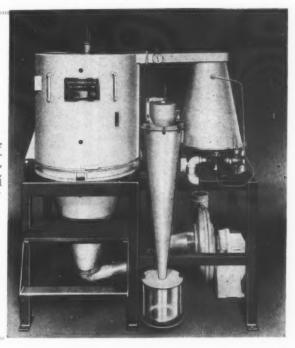
The Bowen conical laboratory spray dryer has a drying air rate of 250 cfm. Heat loads of up to 230,000 btu per hour are possible with an evaporation rate of up to 80 pounds per hour. Optional equipment includes pneumatic opening device for the drying chamber, automatically controlled electric heater and air turbine driven centrifugal spray machine.

This unit will be on display at the Chemical Show in Philadelphia on December 5-9, 1955. Illustrated bulletin #34 is available on request.

New Silicone Plant

The new Long Reach, W.Va., silicone plant of Linde Air Products Co., New York, will start production this fall, it was announced recently by R. S. Abrams, plant manager.

New spray dryer of Bowen Engineering, Inc., North Branch, N.J., for laboratory and small lot production work.



E

STEPAN

AMIDES



LIPA

A 100% active, fatty acid alkylolamide, nonionic in

character. It is a light ivory color, waxy solid, with a mild, pleasant odor. LIPA is a superb foam stabilizer and also a good auxiliary detergent when used with fatty alcohol sulfates and/or alkyl aryl sulfonates. It is recommended for use in heavy duty laundry detergents, creme shampoos, rug shampoos and detergent hand cleaners.



LDA

A special 100% active fatty acid alkylolamide (a

diethanolamide condensate with a very pure grade lauric acid). It is nonionic in character. LDA is a splendid foam stabilizer for liquid dishwashing detergents. It is also an excellent wetting, foaming and thickening agent as well as a good detergent and emulsifier. Recommended too, for shampoos, hand cleaners, and for use in hard surface cleaners.



16-A T6-B

Both products are alkanolamides,

100% active and nonionic in character. T6-A is recommended for use in bubble bath preparations for its fine foam stabilizing in the presence of soap. T6-B is recommended for use in clear and lotion type shampoos as a good thickening agent and auxiliary detergent with some emollient action.



HDA-7

A heavy duty alkanolamide with a built-in coupling agent which permits a very

high phosphate tolerance (as much as 11% on an anhydrous basis). Here is the product to investigate if you are looking for a heavy duty all-purpose hard surface cleaner with a lot of punch. Does an excellent job of wax stripping without harmful effect on floor.



A D I

A low sudsing, special, 100% active fatty acid alkanolamide. It is nonionic in character. ADT is highly recommended for use in formulating liquid scrub soaps. Among its advantages, it can eliminate the use of a coupling agent, has high viscosity and performs unusually well in hard water.



5-84

A 100% active alkanolamide.

Essentially nonionic in character with good alkaline stability. Specially recommended for use in textile scouring, dye leveling and similar applications. S-86 provides good detergency for both cotton and wool. S-86, in addition, also offers some advantages for use as a stabilizer and thickener.

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SOAP PLANT Observer

By John W. McCutcheon

HE writer recently had occasion to discuss engineering problems with a foreign client and discovered to his surprise that stainless clad steel was not at all understood. Such material is being made in foreign countries but not extensively. Therefore we will take a moment here to give a thumb-nail sketch of the process. It is a number of years since the writer saw this type of material being rolled at the Luken's Steel plant near Philadelphia and a few of the details had become obscured. However, Mr. A. W. Kelly of Lukens filled in some of the details and the picture became clear again.

First, two ingots of carbon steel are rolled out to form a slab. If memory is correct these slabs are about five by three feet and approximately 10 inches thick. They form the "bread" of the "sandwich" which is about to be prepared. Two other ingots of stainless steel usually "316 type" commonly used in the soap industry, are also rolled out into slabs about the same size but considerably thinner, each about three inches thick. These constitute the "meat" of the "sandwich." A bit of "mustard" in the form of a separating compound is now put between the two slices of "meat" so to speak and the whole bundle is welded together on all sides. There are a few other steps in the process also, but essentially this is the basic principle. The bundle, or "sandwich," is then put in an oven, brought to cherry redness and rolled into sheet form.

It is a very impressive sight to see the slab passing back and forth between huge rollers and becoming thinner and thinner while men shout and sparks fly! It's a stubborn monster that requires a heartless ogre at the controls. Finally the slab becomes a sheet. The edges are cut and the "sandwich"



separated into two halves. If the original carbon steel slab was 10 inches and the stainless three inches, then the final sheet would have 3/13ths or 23 percent stainless rolled and inseparably bonded to the carbon steel. If the final sheet were 1/4 inches thick, there would be a layer of stainless 0.058 inches on it. The material would be specified as a 23 percent, 316 type, stainless clad sheet ½ inch thick. When it is fabricated it can be bent or formed to put the stainless steel on the inside or outside. A tank, for example, might be inside clad, the head of a heat exchanger outside clad. Clad sheets may be quite thick for high pressure work, or rolled as low as 10 percent, 3/16 inches. Cladding generally is from 10 to 20 percent. On a one-inch thick sheet, 10 percent represents 0.1 inches of stainless, quite sufficient for good protection. On thin 3/16 inch sheets it would require 20 percent cladding to give good protection. Welding clad material is extremely imporfant as the value of the whole job is ruined if an ordinary carbon steel weld is run up the side of a stainless joint. This has been done, believe it or not!

Stainless clad metal is used for reasons of economy and it generally works out very well. Sometimes carbon steel and clad steel sheets lie side by side with advantage.

Some years ago the writer had occasion to prepare a kettle in which the corrosion factor was confined to a small area near the top—at the soap-air interface of a soap kettle. The vessel was made of carbon steel except for the top five feet, where 20 percent inside stainless #304 was used. The results were entirely satisfactory.

The type of stainless to be used in most soap plant applications, such as splitting towers, sulfonators, heat exchangers, stills and tanks, is often dependent on the method of fabrication. For example, 316 Columbia based type stainless may be more satisfactory than straight 316 where heat stabilizing of the finished product is a problem. These problems are best decided by the fabricator after he has all the factors of use before him. Generally, however, it is fairly safe to specify type 304 for tanks and parts subject only to moderate hard usage, and type 316 and its modifications where high temperatures and/or pressures are involved. In the above notes credit for the "sandwich" with "mustard" analogy must be credited to Mr. Kelly.

RECENTLY published paper A by Riemenschneider et al (J.A.O.C.S. Oct. p.522) clarifies one point in fat composition which has been rather controversial. Lard or hog fat glycerides do not have a random fatty acid distribution configuration. Heat and a catalyst will alter this into such a random form so that the product is changed and, incidentally, improved by such treatment for purposes of cake making, etc. In other words, lard can be interesterified to advantage. Tallow, on the other hand, has a random fatty acid distribution in the glyceride, so that interesterification technique does not improve the product. The writer has great faith in Dr. Riemenschneider's work over many years and is ready to accept these findings without question. In fact, the writer has never had oc-

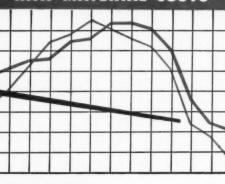
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when he's put to work in your shampoo





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The ULTRAWETS wet, penetrate, clean, emulsify.

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Here's why you'll want to know them better . . .

ULTRAWETS in your shampoo formulation may help you to improve your present product. On top of that, these superior alkyl aryl sulfonates are far less costly than many other types of detergents and will lower your costs.

Add the inevitable consumer acceptance of these new shampoos, and you have a combination of advantages well worth going after. Let us help you. Our sales engineers will be glad to work with you to develop the ULTRAWET-base shampoo formulation to meet your performance requirements. Just send the coupon or write one of the offices listed.

THE ATLANTIC REFINING COMPANY Dept. E-11, Chemical Products Sales 260 South Broad Street, Philadelphia 1, Pa.

e send information on use of ULTRAWET in shampoo.



Philadelphia, Providence, Charlotte, Chicago In the West: L. H. Butcher Co. In Canada: Naugatuck Chemicals Division of Dominion Rubber Company, Ltd. In Europe: Atlantic Chemicals SAB, Antwerp, Belgium In South America: Atlantic Refining Co. of Brazil, Rio de Janeiro

SOAP and CHEMICAL SPECIALTIES

casion to question anything Dr. Riemenschneider has done! The writer is an exceptionally good hater of hogs, and considers it strange that this lowly little farm animal has some secret process that can do anything that a cow cannot do better. Soapers who use or have used lard in their kettles need not be concerned with the above, because the soap kettle has no discrimatory tastes in regard to glyceride structure!

IN last month's column we spoke of possible detergent use as an eye glass cleaner. Action came faster than we expected. Along came a small tube marked "Lens Cleaner" made by Macco Industries, 254 W. 31st St., New York 1, which contained a sort of solvent emulsion which is applied and rubbed off like glass wax. It does work, too! However, let us not have a misunderstanding—the writer was talking of a detergent that would be applied and then washed off. There is a difference but not a very important one, and our hats are off to Macco.

THE list of detergents has been finished but not forgotten. Errors do creep in and for this we apologize. At any rate we are taking every means possible to correct them in the reprints which we hope to have available very shortly. The changes to be noted are as follows:

- (1) "Neolene 400" formerly made by Sharples-Continental should be listed for the petrochemical department, Continental Oil Co., 630 Fifth Ave., New York 20, N. Y. This company also makes "Conoco C-50," "-SD-40," "-DD-40," dodecyl-benzene sodium sulfonates, and "Conoco -S-38," alkylbenzene sodium sulfonate. "DD-40" and "SD-40" are solid anionics for light duty cleaners. "C-50" is an anionic slurry, which requires further processing. "S-38" is a liquid anionic for industrial cleaning.
- (2) "Kamenol D" was omitted

- from the list. It will be restored as it is now again in production.
- (3) "Hyponate L-50" is an L. Sonneborn product. The concentration should be 50 not 62 percent.
- (4) "Agrimuls 70-A, C, GM" and "T" should be listed as manufactured by *Nopco Chemical Co.* not Geigy Chemical Co.
- (5) "Ecconol A" and "B," "Essential 40," "Aprill Wetting Agent" and "Supercon" made by Essential Chemicals Co., 5908 North Port Washington Road, Milwaukee, are being added to the list of detergents in the reprints.
- (6) To the manufacturer's list should be added:
 - a. Kamen Soap Products Co.,233 Broadway, New York 7,N. Y.
 - b. Continental Oil Co., 630 Fifth Ave., New York 20, N. Y.
 - c. Planetary Chemical Co., Ballas Rd., Creve Coeur, Mo.
 - d. Standard Chemical Products, Inc., 1301 Jefferson St., Hoboken, N. J.
 - e. Standard Soap Co. of Camden, Camden 3, N. J.
 - f. Jacques Wolf & Co., Passaic, N. J.

Spray Nozzles Catalog

Spraying Systems Co., Bellwood, Ill., recently announced a new 20-page illustrated catalog, covering spray nozzles and accessories for orchard, garden, and other sprays. In addition to nozzles for boom, broadcast, hand, and airplane spraying, accessory equipment such as adjustable valves, strainers, and spray guns, is described. Included in the catalog are tables for calculation of field coverage of chemicals in terms of gallons per acre and gallons per minute. "TeeJet" and "BoomJet" spray nozzles, "GunJet" shut-off valves are described. Catalog 30 is available on written request.

New Syntomatic List

A new 23-page catalog was published recently by Syntomatic Corp., New York. Listed are aromatics, essential oils, perfume oils, and perfumer's materials. Special sections are devoted to perfume oils for shampoos, for soaps, and for aerosol formulations. Masking odors for industrial use in the formulation of disinfectants, polishes, sprays, waxes, and other specialties are listed separately. Copies of the catalog are available from Syntomatic at 114 East 32nd Street, New York 16.

New Dow Products List

A new 36-page general products catalog was published in October by Dow Chemical Co., Midland, Mich. More than 350 materials are described. Property information is presented in tabular form followed by general use information. Among chemical products described are glycol ethers, organic chelating agents, various methylcellulose products, ion exchange resins, heat transfer media, etc.

Fritzche Catalog

The October price list of Fritzsche Brothers Inc., New York, was published recently. The catalog carries essential oils, aromatics and related products exclusive of flavors. It is available only to purchasers in wholesale quantities.

- * -

Handles British Lanolin

Woolcombers, Ltd., Bradford, England, and its subsidiary, Westbrook Lanolin Co., recently announced the appointment of Midwest-Overseas Trading Corp., Milwaukee, Wis., as their sole agents for the Midwestern area of the United States. Westbrook makes cosmetic and pharmaceutical grades of lanolin and wool alcohols and technical grades of lanolin, degras, and woolgrease fatty acids suitable for specialties uses. Otto K. Namtwedt, president of the Milwaukee firm, said that his company will carry ample stocks of all these products.



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Jones & Laughlin Steel Containers provide dependable protection for your products. They are built of sturdy, highquality J&L Steel Sheet. Careful manufacture assures accuracy in all fittings and closures. J&L containers have a trim appearance which can be decorated attractively with colorful designs and illustrations by means of J&L's lithographic process.

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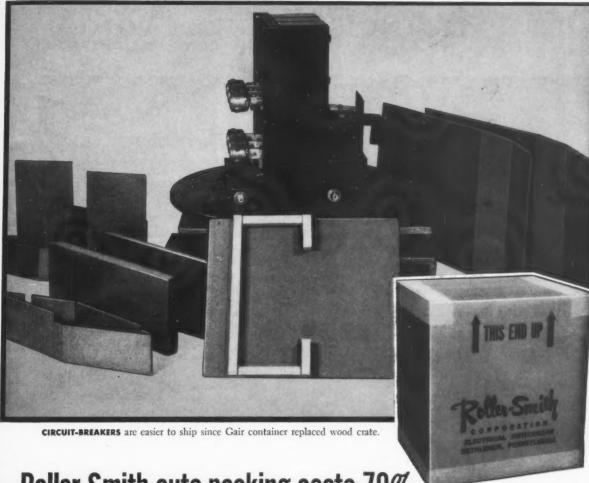
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best suited to your product — whether it's spray,
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In plastic bottle packaging, only Plax offers continuous research, complete



Roller-Smith cuts packing costs 70%, shipping weight 27½% with new Gair Container

These percentages are based on actual time studies run by Roller-Smith Corporation, Bethlehem, Pa., on the packing of their heavy circuit breaker.

Cutting lumber, assembling a wooden crate and packing used to take 57 minutes. With the new Gair container the job takes only 17 minutes — a 70% reduction. Material costs also dropped 9¾%, and net shipping weight of the container plummeted 27½%.

What's more, the Gair container has chalked up

an excellent record for protection in transit, as well as guarding against loss of accessories often included in shipments. Extra dividends include:

- · advertising value of Gair's printing
- · dust protection of Gair's sealed construction
- · elimination of safety hazards in handling wood
- · reduction of required storage space

Maybe there's some way Gair could improve your product's shipping container. How about calling your nearest Gair container plant and finding out?

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SHIPPING CONTAINERS . FOLDING CARTONS

PAPERBOARD . KRAFT BAGS AND WRAPPINGS

ROBERT GAIR COMPANY, INC. . 155 EAST 44TH STREET . NEW YORK 17, N.Y.

NOVEMBER, 1955

SC.5.8

OWENS-ILLINOIS ASSURES YOU A



Co-ordinated Research

Pure research into formulae and fabrication of glass, packaging research into processing and handling methods in customer plants, and market research into consumer attitudes, add up to greater specific value for your packaging dollar.



Engineered Design

The package that takes your product to market must take *three* needs into account. Considerations of its function in the retail store, its operating efficiency and its consumer utility all become a part of the prescription for an Owens-Illinois package.



The Right Container

Facilities at Owens-Illinois are versatile. Talents are varied and many. So you can count on obtaining a container exactly suited to your needs—one that blends salesmaking beauty, product protection and utility in the proportions required to attract customers.

Hard-working Hypochlorite





90

SOAP and CHEMICAL SPECIALTIES

COMPLETE PACKAGING APPROACH



The Right Closure

Know-how as to the best available liner and closure—best for packing, displaying, or using a specific product—may well be one of the most important single points through which expert packaging counsel will reward you many times over.



Needed Fitments

With emphasis on the word "needed," Owens-Illinois specialists are keenly aware of sales benefits possible through use of plastic shaker and pour-out fitments which are not "gadgets" but which increase consumer satisfaction with your product.



Merchandising Cartons

Modern cartons are developed only through systematic consideration of their opportunity to serve you in the retail store and retail warehouse as well as on your own filling line and in transit. Owens-Illinois is pioneering such developments.

or Gleam-making Polish-



there's an Owens-Illinois Package that <u>Sells</u> while it <u>Protects</u>

Your product gets an extra sales "lift" when it comes in a well planned package.

Such a package catches a customer's eye more quickly. It protects its contents — maintains the quality through many openings

and closings, and it is convenient to handle and use.

All this adds up to a salespackage—the kind of packaging Owens-Illinois has planned and produced for decades.

No matter what the character of

your product might be, you can call upon Owens-Illinois, confident that you will receive the help of a marketing-minded supplier ready to provide glass containers of all types, capacities and designs, both stock and custom-made.

DURAGLAS CONTAINERS
AN (1) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO



New success stories of self-spraying packages are being written daily. What about your product? If now marketed in liquid form, it may gain new sales appeal and value when offered in pressurized containers. And you need not invest a penny in equipment or personnel; we can take care of all filling, storing and shipping. Write for free folders...now!

CONTINENTAL OFFERS:

Complete Filling Service

We do not merchandise any products of our own. Our sole operation is contract and custom filling of containers with your products... liquid, pressurized or aerosol ... in glass or cans.

Extensive Laboratory and Production Facilities

Continental conducts chemical analysis and continuing research on dispensing methods and containers. Filling equipment is the finest in the industry, geared to handle orders of any size. Quality control and inspection safeguard your shipments.

Warehousing and Drop Shipping in Bulk Lots

Extensive storage space permits you to use our two centrally-located plants as nation distribution points, with consequent large savings on freight costs. We handle shipping and paper work. Your orders are ready when you want them.





LIQUID



SPRAY



FOAM

CONTINENTAL FILLING CORPORATION

MAIN OFFICE . 123 NORTH HAZEL STREET, DANVILLE, ILLINOIS

PLANTS . DANVILLE, ILLINOIS - HOBART, INDIANA

Packaging NOTES

O-I Research Center

A glass container, 20 percent lighter than the conventional one but just as strong and produced at twice the present commercial rate, was introduced by Owens-Illinois Glass Co., Toledo, O., at the recent opening of its new research center. A two-story brick and aluminum building, the new center occupies eight acres of a 21-acre plot. Comprising nearly 200,000 square feet of floor space the structure houses drafting rooms, offices, 50 laboratories and a large pilot plant. It is staffed by 500 scientists and technicians.

At the opening of the research center the process for manufacturing the new container was demonstrated on an experimental machine. At first the method will be used to make wide mouthed jars, but it is equally applicable to the manufacture of the whole range of glass containers, according to Carl R. Megowen, O-I president.

A heat treating process which makes glass containers more durable and opens up new opportunities for glass in the packaging field was announced at the same time.

In his welcome address J. P. Levis, chairman of the board, said that the firm had spent approximately \$60,000,000 in the last ten years on research and engineering development. Oscar G. Burch, vice-president in charge of research and engineering, forecast vastly expand-

ed applications for glass, due to an inexhaustible supply of raw materials, great strength potential, and other natural properties.



Lester W. Graskamp

Graaskamp in New Post

Lester W. Graaskamp, vicepresident in the executive department and a director of American Can Co., New York, has been named vice-president in charge of central division operations, it was announced in October by William C. Stolk, president. Mr. Graaskamp joined American Can in 1920, became assistant manager of sales in the central division in 1941, assistant general manager of sales in 1944 and in 1946 general manager of sales. In 1949 he was elected vice-president in charge of sales and in 1951 he was made vice-president

in the executive department. He was elected a director in 1952.

Gair Renames Divisions

Robert Gair Co., New York, announced recently the renaming of its two Los Angeles divisions; Angelus Paper Box Co. Division is to be known as Los Angeles Carton Division, and the Angelus Corrugated Box Division becomes Los Angeles Corrugated Box Division. The two divisions were established in 1954 when Gair acquired Angelus Paper Box Co.

Rheem Reassigns Two

Two vice-presidents of Rheem Manufacturing Co., Chicago, recently received new management assignments: G. M. Greenwood becomes chief financial officer and Gordon Mallatratt secretary and treasurer of the corporation, a post previously held by Mr. Greenwood. Mr. Mallatratt had been general manager of the Rheem products division and is succeeded in that post by Vearl J. Heinis, former general sales manager of the division.

At the same time Angus Lightfoot-Walker, vice-president in charge of Rheem International, was elected a director of Rheem Manufacturing Co. Mr. Walker joined Rheem Australia as sales manager in 1937, became general manager before being transferred to New York as executive assistant to the president. In 1951 he was appointed vice-president in charge of Rheem International which handles Rheem's overseas investments and sales.

New Plastic Drum Pump

A new drum pump that will fit any size drum was introduced recently by Pex, Inc., St. Louis, Mo. Designed to handle detergents, acids, soaps, alkali, the unit dispenses one ounce of material with each plunge. The aluminum-cast adaptor is made to fit a two-inch bung. If the plastic pump breaks it is replaceable at low cost. The device sells for \$1.95 each, f.o.b. St. Louis.

Newly opened Owens-Illinois Glass Co. research center



RHEEM FIBRE DRUMS ARRIVE IN TIME TO MAKE ANOTHER IMPORTANT SHIPMENT





Time is money! That's why Rheem's distribution system, which covers more major markets faster, is so important to you.

In America's major manufacturing centers—East Coast, Midwest, and West Coast—you can rely on Rheem to supply you with the fibre containers you need when you need them.

Rheem's pin-pointed distribution system enables you to get even custom-made drums on short notice—no need to keep space-taking stocks on hand. In most cases, Rheem can ship the drums you need by truck and deliver them right to the point of use. This not only saves time, but also cuts handling costs.

Rheem Fibre Drums are inexpensive, lightweight, "tailor-made" containers, offering a tight seal and sturdy protection for your product.

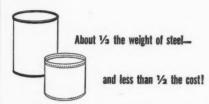
For complete information on how Rheem Fibre Drums can save you time and money, write today to the Rheem office nearest you.

Switch in time, Switch to



Did you know these facts about Rheem Fibre Drums?

- They can be colorfully decorated, at low cost, through the silk screen process. Or, if you wish, labels may be used.
- 2. Special interior linings can be applied to give the proper chemical protection to a wide variety of products requiring it.
- 3. Special laminates can be built into the drum walls to provide an added moisture barrier, without adding greatly to the cost.
- The light weight of sturdy, durable, economical Rheem Fibre Drums reduces shipping costs. Empty drums can be nested to save space.



801 Chesley Ave., Richmond, Calif. • 4361 Firestone Blvd., South Gate, Calif. • 7600 S. Kedzie Ave., Chicago 29, III. • U. S. Highway #1, Linden, N. J. • Box 6718, Sparrows Point 19, Md.

What's New?

An attractive, easy-to-handle bottle and a detachable mist sprayer, both packed in a bright, daisy yellow and green cut-way carton, are being used to introduce the new "Dazy Spray" air freshener, distributed nationally by Drackett Co., Cincinnati. Bottle is especially designed for easy gripping by feminine hands, while visibility of product, made possible by clear glass bottle, enhances sales appeal on store shelves. Bulbeshouldered bottles by Owens-Illinois Glass Co., Toledo; plastic mist sprayers by Calmar Co., Los Angeles. Cartons are supplied by Robert Gair Co., Chicago, and bottle labels by Nielson Litho, Cincimati.

COLGATE



Newest addition to line of Colgate-Palmolive Co., Jersey City, N. J., is "Colgate Deodorant Beauty Soap," which contains hexachlorophene and lanolin. Black wrapper with pink ends is overprinted in red and blue and reverse white. Word "Colgate" is in red; "Deodorant Beauty Soap" in blue, and "with hexachlorophene and lanolin" in white. Two sizes are available: 4 7/8 ounce bath, and 3½ ounce hand.

All plastic aerosol packages for its line of spray colognes were introduced recently by Angelique & Co., Wilton, Conn. The two ounce melamine container fitted with plastic valve made by Colt's Manufacturing Co., Hartford, Conn. Armstrong Laboratories, Boston, is the filler. The new container holds 1.74 ounces of product and retails for \$2.50. Four fragrances are available: "Red Satin," "White Satin," "Black Satin" and "Gold Satin."

COLGATE



Modern package designs that also serve to establish family identity of its hair prepara-tions were adopted recently by Stephan Distributing Corp., Fort Lauderdale, Fla.

Pint size has poly-ethylene shaker fitment for applying shampoo. Bottles, white molded closures and ap-

plied color labels are all manufac-tured by Owens-Illinois Glass Co.,

Toledo.

Fort

"Dash," new "condensed suds" detergent for automatic washers made by Procter & Gamble Co., Cincinnati, now comes in 23 pound home laundry size package. Feature of heavy board carton is fold-up carrying handle.



"White Blossom," a new line of toile-tries recently introduced by J. R. Wat-kins Co., Winona, Minn., consists of five accessory items. Included are cologne, perfume, bath salts, body talc and creme sachet. Each product is packed in an outer container decorated packed in an outer container decorated in blue and gold pastels, designed by Charles Magers, Princeton, N. J. Family identity is carried by a floral bouquet design. Cartons and labels are supplied by Watkins Press. Glass cologne and perfume containers are manuafctured by Owens-Illinois Glass Co., Toledo, O., and its subsidiary, Kimble Glass Co. Purse size creme sachet is packaged in a plastic, squeeze type container with decorated aluminum shell cover manufactured by Richford Corp., New York.



New "Dial Shampoo" consumer offer an-nounced recently by Armour and Co., Chicago, features recently introduced 11/2 ounce bottle, which regularly sells for 33 cents, being given free with purchase of seven ounce size at \$1.00. The two bottles are banded together.

shampoo

"Clo-White" liquid bleach of Coastal Chemical Co., Savannah, Ga., now comes in new, streamlined, private mold, quart amber bottle, right, of Owens-Illinois Glass Co., Toledo, O., who also supplies lithographed metal cap. Labels are by Piedmont Label Co.



Four new aerosol products for use in offices were announced recently by Panama-Beaver, Chicago manufacturer of inked ribbons and carbon papers. The new line consists of "Spra-Clean" a pressurized solvent cleaner for type on all manual office equipment; "Electra-Clean" for electric typewriters only; "Du-Clean" for removing ink stains and grime from hands, and "Static-Ban" for eliminating static electricity common to high speed office machine.

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ES INFEL



Designed for use in automatic dishwashers, "Cascade," a new detergent announced recently by Procter & Gamble Co., Cincinnati, is now being distributed nationally.

"Chemi-Coat," new non-wax, plastic floor finish of Haag Laboratories, Inc. Blue Island, Ill., was announced recently. In one gallon can shown above the new finish sells for \$1.65 a gallon. Product, which provides tough plastic surface that can be applied over water emulsion type wax without removing, also comes in five, 15, 30 and 55 gallon drums. Product is claimed not to darken floors, not to crack or streak, or whiten when wet. It will restore color to any type of floor to which it may be applied, according to the manufacturer.

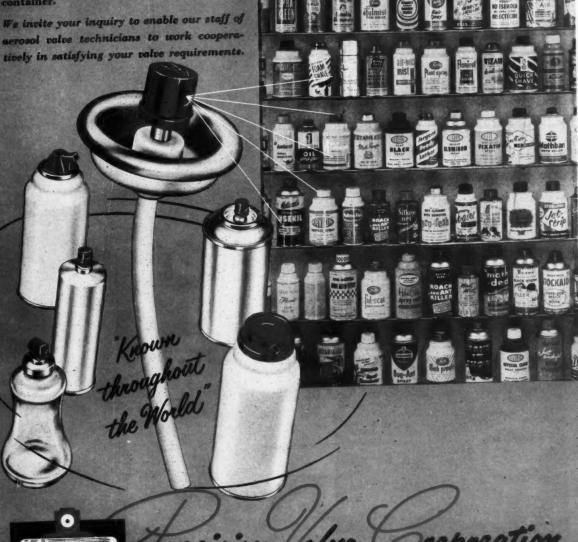


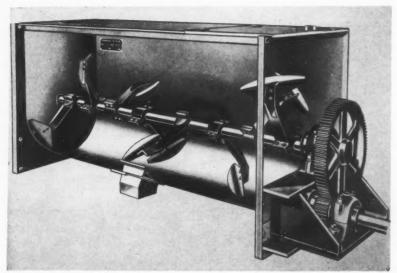
Aerosol Value for your product by Precision

The picture tells a story... the story of overwhelming popularity, tremendous growth and continued reliance on a quality product... PRECISION VALVE.

The use of over 200,000,000 time-tested valves by hundreds of completely satisfied customers throughout the world, is your assurance that PRECISION has the answer to your aerosol program regardless of product or container.

aerosol valve technicians to work coopera-





Marion standard mixer for handling all types of dry materials. Made by Rapids Machinery Co., Marion, Ia.

Dry Mixing Equipment

(From Page 71)

The mixing shaft is constructed of special axle steel to handle the heaviest of loads. Both the standard and industrial mixers are available in capacities of 1/2 to two tons and 41 to 162 cu. ft. Suggested hp. are five to 30.

The Marion small batch mixer is designed for manufacturers requiring less capacity and is available in 300 pound, 10 cubic foot capacity and a 500 pound, 15 cubic foot capacity with suggested two and three hp. The mixing shaft mounts four mixing blade arms.

Charles Ross & Son Co., 148 Classon Ave., Brooklyn, N. Y., manufactures a line of dry mixers, heavy duty liquid

Model 36D dry mixer of Charles Ross & Son Co., Brooklyn.



and paste mixers and grinding equipment.

Illustrated is model 36D dry mixer. This machine is produced in seven different sizes, ranging from 1/2 drum capacity to 10 drum capacity. The 1/2 drum unit has a working capacity of 25 gallons or approximately 3.2 cubic feet dry material and is driven by a 1/2 hp. reduction gear motor directly coupled to the shaft. The operating shaft speed is 60 r.p.m. The one drum unit has a working capacity of approximately 50 gallons or 6.2 cubic feet of dry material and is driven by a three horsepower gear reduction motor at 60 r.p.m. Other sizes include a two drum model driven by a five hp. motor at 50 r.p.m.; a four drum unit driven by a 71/2 hp. motor at 50 r.p.m.; a six drum unit driven by a 10 hp. motor at 40 r.p.m.; and the eight and 10 drum models, both powered by 15 hp. motors and revolving at 35 r.p.m. The capacity may be approximated by figuring 55 gallon drum for liquid and assuming that eight gallons of fluid equals approximately one cubic foot of average dry matter.

In operation, the paddle at the bottom of the container forces the product upward against the stationary stirrer, which is pitched in such a way that it tends to throw the material back down again. The curbing action of the stationary stirrer creates a vortex or whirlpool within the material being mixed. Thus, the material is forced up the sides of the container and back down the middle. After the mixing operation is completed, the material is discharged through a valve in the bottom of the container.

Scottdel, Inc., Swanton, O., manufactures a line of impact grinders, auger type dry*mixers and other machinery.

Illustrated is an above-the-floor chemical mixer. The material to be mixed is placed in a hopper at the side of the mixer. The vertical auger lifts the material to the bottom of the mixing cone where it is stirred by agitators before it is elevated to the top of the mixer. When the material reaches the top of the mixer, it is broadcast over the entire area of the mixing chamber by a sweep. The material then falls back to the bottom of the cone where it is again lifted and the cycle repeated.

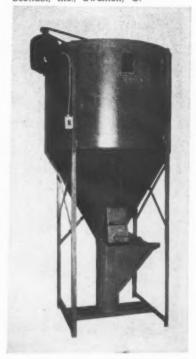
The above-the-floor chemical mixer has a capacity of 32 cubic feet, with a 7 5/16 inch auger revolving at 450 r.p.m. It is driven by a two hp. electric motor and the shipping weight is 500 pounds. The machine can be moved from one location to another. Its loading hopper is at the side of the lower tube, and the material to be mixed must be lifted 22 inches in order to be placed in the hopper.

The below-the-floor model chemical mixer has its loading hopper flush with the floor. The installation of this model requires that a hole 18 inches square by 18 inches deep be cut in the floor to receive the hopper. The material to be mixed can be poured on the floor and pushed into the hopper.

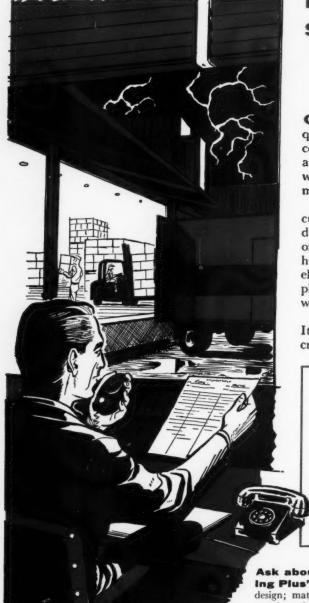
The below-the-floor machine has a capacity of 32 cubic feet, with an auger diameter of 7 3/16 inches revolving at 400 r.p.m. The machine is driven by a two hp. electric motor using v-belts. Shipping weight is 550 pounds.

U. S. Stoneware Co., Akron 9, O., manufactures a line of grinding and mixing equipment, chemical stoneware and chemical porcelain, corrosion-resistant masonry and plastic seals and gaskets.

Above the floor chemical mixer of Scottdel, Inc., Swanton, O.







BALL RADIO-CONTROLLED SHIPPING CENTER

can help you reduce inventory, meet emergency demands!

Orders for Ball Glass Containers are now assembled quickly, accurately, in our radio-controlled shipping center. A flick of the dispatcher's "mike" switch . . . and containers start flowing smoothly from acres of warehouses to truck or rail-loading docks . . . shipments are on their way in record time.

This flexibility of service pays off three ways for Ball customers. (1) Tighter delivery schedules let you reduce container inventory with no risk of running out of glass. (2) Emergency demands can be met in a hurry. (3) If you operate your own truck fleet you eliminate costly waiting time by having your driver phone ahead . . . then your order will be ready to load when he arrives.

Let the Ball radio-ized shipping center save for you. It's another "Packaging Plus" Service planned to increase your profits!

A CASE HISTORY

"A tornado just ripped the tarp off my truck," a Ball customer's driver phoned our night dispatcher. "Every case is rain soaked. I'll be back in an hour for a reload." Due to our radio control facilities the refill was on the dock ready to be loaded when the truck returned to our shipping center. Thanks to the time saved in getting the truck on its way again, delivery was made on schedule and production continued without interruption. Another customer had "cashed-in" on a Ball Service Dividend.

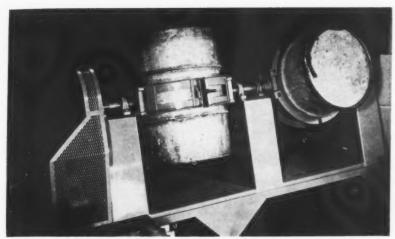
Ask about other Ball "Packaging Plus" Services . . . glass container design; materials handling; packaging research; technical counsel on processing and equipment. Whatever your problem, it pays to call BALL first of all!



BALL BROTHERS COMPANY · · · MUNCIE, INDIANA

Offices in All Principal Cities

Q 1955. 8. 8. CQ.



Drum tumbler of U. S. Stoneware Co., Akron, O., tumbles drums end over end. Unit can handle one or two drums.

Illustrated is a drum tumbler. Built to handle one or two drums, the unit tumbles the drums end over end The drums are held in place by a positive locking yoke, which allows easy removal of the drum after mixing. Drums are not included with the unit. All units are driven by a one hp, motor and may be had either in constant or variable speed models. Constant speed models tumble the barrels at 13 r.p.m., while the variable speed units tumble the material at either eight to 20 r.p.m. or 12 to 31 r.p.m., depending on the model. Special drums with removable heads and with or without baffles can be furnished. On special order, the machine can be made to handle 10, 30 or 70 gallon drums.

A drum roller, designed to roll from five gallon pails to 70 gallon drums, is available in four models. The rubber "idler" rolling wheels are adjustable laterally through an 11 inch range and the eight heavy duty rubber wheels are adjustable on the shaft to provide clearance for such obstructions on drums as rolling hoops and bung openings.

The drum rollers are available in four sizes to handle from one to four drums. Capacity of the machine is 500 pounds per drum. The one drum roller is driven by a ¾ hp. motor, the two drum unit by a one hp. motor, the three drum unit by a 1½ hp. motor and the four drum unit by a two hp. motor. These motors drive the six inch diameter rubber wheels at 144 r.p.m. The approximate revolving speed of a 55 gallon container is 36 r.p.m.

The rollers are also available in variable speed drive. This permits the speed of the rubber wheels to be adjusted between 76 and 190 r.p.m. Open type motors are standard with explosion proof motors optional at extra cost.

A 25 gallon white chemical porcelain tumblemixer can be had. Both inside and outside surfaces of the barrel are glazed. The cover is ground on to fit the barrel and is provided with a heavy rubber gasket.

Liddane to Bradley

Carl R. Liddane has joined Bradley Container Corp., Maynard, Mass., as a sales engineer, it was announced last month by Henry E. Griffith, vice-president. Mr. Liddane, a former Air Force lieutenant, has been an account executive with Ivers-Lee Co., Newark, N. J., advertising agency, since 1952. He services "Bracon" customers in the New York area.

Plastics Packaging Forum

"Plastics for Packaging" is the theme of a one-day symposium of the Atlantic regional conference sponsored by the New York section of the Society of Plastics Engineers. The symposium will be held on Nov. 16 at the Statler Hotel, New York. Plastic materials, processing techniques, and future trends in the packaging field will be the theme of talks by speakers representing major materials suppliers and of technical exhibits. The evening session will feature addresses by Lloyd Stouffer, editor of *Modern Packaging* and Egmond Arens of Egmond Arens Co., New York.

Holmquest Thatcher V. P.

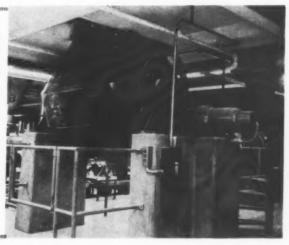
P. Stuart Holmquest has been elected vice-president in charge of container sales for Thatcher Glass Co., Elmira, N. Y., it was announced recently. Prior to joining Thatcher he was sales manager of the container division of Armstrong Cork Co., Lancaster, Pa.

Sears in P.M.M.I. Post

Russell L. Sears has been named executive director of Packaging Machinery Manufacturers Institute, Inc., New York, effective Oct. 1, it was announced recently. To accept this position he has resigned as vice-president and general sales manager of Lynch Corp., Anderson, Ind., and as a member of the board of directors of Lynch International, Ltd., London, England.

As executive director of P. M. M. I., Mr. Sears will coordinate the trade association activities of the 70 member companies and will serve as director of the Packaging Machinery and Materials Exposition of 1956, scheduled for next September.

"ThoroBlender" of Patterson Foundry & Machine Co., E. Liverpool, O., used for mixing and blending of dry powders, flakes and granules. Type B comes in sizes ranging from 3½ to 16 feet. Total volume is from 20 to 1876 cubic feet. The range of operating volume is from 13 to 1300 cubic feet.



SOCIÉTÉ BELGE DE L'AZOTE ET DES PRODUITS CHIMIQUES DU MARLY

The whole scale of pure and technical

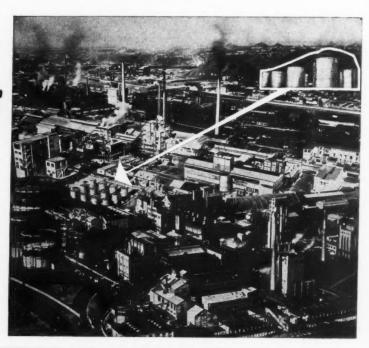
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with
Better Compounds



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Essential Oils

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MUrray Hill 7-5712

Bids and AWARDS

Low Packwood Soap Bids

G. H. Packwood Mfg. Co., St. Louis, submitted the low bids of 38.25 cents, item one, and 54.25 cents, item two, all or none, on borax soap powder in a recent opening for miscellaneous supplies by the Federal Supply Service, Chicago. Aug. 3, inv. WCH-94280.

Low Keever Starch Bid

Keever Starch Co., Columbus, O., submitted the low bid of 10.24 cents a pound on 14,100 pounds of laundry starch in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D.C. Sept. 9, inv. 2B-67124-R.

Low Floor Polish Bid

Oil Specialties and Refining Co., Brooklyn, N.Y., submitted the low bid of \$15,053.23 on emulsion floor polish in a recent opening for miscellaneous supplies by the Post Office Department, Washington, D.C. Aug. 26, inv. 119.

Low FSS Cleaner Bids

Hillcrest Laboratories, Spring Valley, N. Y. submitted the following low bids on hand cream cleaner in a recent opening for miscellaneous supplies by the Federal Supply Service, New York. Items 1-12, 12.9 cents; items 13-36, 18.5 cents. Sept. 12, inv. 63652.

Low Soap Powder Bid

Old Dominion Paper Co., Norfolk, Va., submitted the low bid of 3.5899 cents on 70,000 pounds of soap powder in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C. Sept. 14, inv. 2B-67123-R.

VA Stain Remover Awards

In a recent opening for miscellaneous supplies by the Veterans Administration, Washington, D. C., the awards on stain removing compound went to the following low bidders: Trio Chemical Works, Brooklyn, N. Y., item 1, \$1.20 container, item 2, \$1.40; Clarkson Laboratories, Philadelphia, item 3, \$1.28. Aug. 3, inv. S-41.

Low Deodorant Bids

Bios Laboratories, Inc., New York, submitted two low bids of one cent and 1.1 cents on deodorant blocks in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C., Sept. 23, inv. 2B-67774.

V. A. Award to Comfort

In a recent opening for miscellaneous supplies by the Veterans Administration, Washington, D. C., the award on brushless shaving cream was received by Comfort Mfg. Co., Chicago, with the following low bids: items 1 and 2, 89.856 cents, dozen tubes. Aug. 25, inv. S-54.

Low FSS Insecticide Bids

Trio Chemical Works, Brooklyn, and Bios Laboratories, New York, both submitted low bids on insecticides in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C. Trio bid 71 cents, item one and Bios bid nine cents, item two. Oct. 5, inv. 2B-68105.

"Abitol" Brochure

A new technical booklet describing properties and applications of "Abitol" primary monohydric alcohol, became available last month from Hercules Powder Co., Wilmington, Del. Surface-active agents can be made by oxyethylation of the product with ethylene oxide. Nonionics thus derived are used in the production of detergents, industrial cleaners and emulsifiers, are said to exhibit excellent stability to acids and alkalis, to combine good performance at low concentrations and with little foam. "Abitol" is

compatible with hydrocarbon waxes and can be incorporated in wax formulations for adhesion and flexibility. The product's major use is in alkyd resins,

"Kady" Mill Catalog

"Kady" dispersion mills are described and illustrated in a new catalog published last month by Kinetic Dispersion Corp., Buffalo, N. Y. Descriptions, performance and physical data and specifications are supplied for the entire "Kady" line. Tank capacities range from one gallon to 210 gallons.

New Ross Laboratory Mill

A new three roller laboratory mill, convertible for fixed or floating center roll operation, was announced recently by Charles Ross & Son Co., Brooklyn, N. Y. Model #52LC is operated with fixed center roll and four-point adjustment when differences in pressure between feed and takeoff rolls are desired. When equalized pressures are desired the mill can be converted to self-aligning or floating center roll and two-point adjustment. Conversion requires only minutes and no special tools or kits, according to the manufacturer. The mill is built as a replica of larger models to assure exact laboratory or pilot plant duplication of results obtained in production. Ease of operation and cleaning, and heavy construction for good wearing qualities are claimed for the mill.



7he Maya Line

provides character and continuity to an entire line of products.

> Stable, economical and versatile, the Mayas are invaluable in maintaining a given fragrance throughout a line or related products such as a cream, cologne, powder, rouge, soap, etc.

> The Mayas include such favorites as our Maya Fougere 4650 and our Maya Millefleurs 4707, a variety of fine Parisian bouquets, and a full line of fresh floral odors.

& co., inc.

601 west 26th street, new york 1, n. y.

Write us about your products and we will be glad to offer suggestions and further details.

NEW Crade Marks

THE following trade marks were L published in recent issues of the Official Gazette of the U.S. Patent Office in compliance with section 12(a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of \$25 must accompany notice of opposition.

Enzodent—This for dentifrice. Filed June 24, 1954 by Harry Roth, New York. Claims use since Apr. 14,

Drano-This for drain cleaner. Filed Apr. 24, 1950 by Drack-ett Co., Cincinnati. Claims use since Apr. 1, 1950.

Rodum — This for fungicidal agent for use as an ingredient in a dandruff treatment shampoo. Filed Nov. 23, 1949 by Fairfield Laboratories, Inc., Plainfield, N. J. Claims use since on or about Dec. 1, 1947.

Liquid Waxoff—This for floor cleaner and wax remover. Filed May 6, 1954 by Schalk Chemical Co., Los Angeles. Claims use since Mar. 16,

Alvo—This for cleaning com-pounds for general household and laundry use. Filed Aug. 17, 1954 by Alvo Packing Co., New Bedford, Mass. Claims use since Aug. 16, 1932.

Like Magic-This for cleaning, degreasing and anti-static coating preparation. Filed Oct. 13, 1954 by Merchandise Presentation, Inc., New York. Claims use since August 1949.

Glisn—This for shampoo. Filed Dec. 30, 1954 by Realistic Co., Cin-cinnati. Claims use since on or about Sept. 27, 1937.

Sergeant's E-Z Groom—This for cleaner-insecticide for dogs and cats. Filed Mar. 15, 1955 by Polk Miller Products Corp., Richmond, Va. Claims use since Dec. 31, 1954; and since December 1885, as to "Sergeant's."

Lanolin Plus—This for toilet soap and shampoo. Filed Apr. 20, 1955 by Saint Cornelius the Centurion Chapel of Valley Forge Military Academy, Wayne, Pa. Claims use since Aug. 12, 1942, on toilet soap.

Finishine-This for polishing and furniture waxing compositions. Filed June 2, 1954 by Finishine Laboratories, Inc., Syracuse, N. Y. Claims use since May 19, 1930, on a polishing composition.

Crown — This for laundry starch. Filed Aug. 2, 1954 by A. E. Staley Mfg. Co., Decatur, Ill. Claims use since June 4, 1954.

Chlorpax-This for preparation for control of termites and household insects. Filed Oct. 15, 1954 by Biocerta Corp., New York. Claims use since May 1, 1929.

Avon Amulsion, Avon Allspray,

Avon Amulsifine—These for oil insecticides. Filed Nov. 8, 1954 by Tide Water Associated Oil Co., New York. Claims use since Feb. 20, 1948; Jan. 7, 1948, and Mar. 3, 1948, respectively.

Avon Arland—This for poultry spray oil. Filed Nov. 8, 1954 by Tide Water Associated Oil Co., New York. Claims use since July 8, 1948.

James "Perma-Kill"—This for insecticides. Filed Dec. 15, 1954 by Joseph H. James, doing business as James Products Co., Ponca City, Okla. Claims use since Nov. 15, 1954.

Larvabor-This for larvicide. Filed Jan. 24, 1955 by Pacific Coast Borax Co., Los Angeles. Claims use since Dec. 23, 1954.

Floor-King—This for electric floor polishing and scrubbing machines. Filed Apr. 5, 1955 by American Floor Surfacing Machine Co., Toledo, Ohio. Claims use since Nov. 3, 1954.

Ebb—This for laundry detergent. Filed Apr. 5, 1954 by George E. Abbott & Co., Brooklyn, N. Y. Claims use since in June 1953.

Dermatone — This for liquid hand cleaner. Filed Apr. 23, 1954 by Montgomery Chemical Co., Jenkin-town, Pa. Claims use since Jan. 17,

Pensuds-This for wet cleaning soap for use in dry cleaning plants. Filed May 11, 1954 by Pennsylvania Salt Mfg. Co., Philadelphia. Claims use since May 19, 1952.

Thylox — This for shampoo. Filed June 14, 1954 by Shulton, Inc., Clifton, N. J. Claims use since May 20, 1954.

Tred-Kleen - This for floor cleaners in the nature of a soap or detergent. Filed Dec. 22, 1954 by Modene Paint Co., Chelsea, Mass. Claims use since Nov. 3, 1933.

Wilco-This for liquid automobile polish and wax. Filed Nov. 16, 1953 by Wilco Co., Los Angeles. Claims use since Sept. 7, 1948.

Sioux — This for automobile polish and wax. Filed Jan. 11, 1955 by Albertson & Co., Sioux City, Iowa. Claims use since Sept. 1, 1931.

Super 8—This for combined polishing and cleaning preparation for automobiles, airplanes and chromium. Filed Apr. 28, 1955 by John A. Kenderessy, Gary, Ind. Claims use since Jan. 12, 1955.

Regard Kill This for innertice.

Brazil Kill—This for insecticide. Filed Apr. 13, 1954 by Walter P. Brazil, doing business as B & B Exterminating Co., Jacksonville, Fla. Claims use since on or about Mar. 15, 1953.

Fovan—This for insecticide. Filed June 28, 1954 by Foley & Co., doing business as Fovan Chemical Div., Tampa, Fla. Claims use since Mar. 10, 1953.

Scram—This for mothicides. Filed Jan. 12, 1955 by Frank J. Curran Co., Downers Grove, Ill. Claims use since Aug. 26, 1932.

Selectox—This for insecticides. Filed Jan. 24, 1955 by Veith Chemical Co., Fresno, Calif. Claims use since May 5, 1947.

Soft-This for liquid detergent

for dishwashing. Filed Dec. 17, 1954 by Glissen Chemical Co., Brooklyn, N. Y. Claims use since on or about

Oct. 15, 1954.

Purple X.—This for all-purpose detergent for household and industrial uses. Filed Jan. 25, 1955 by E. R. Goodrich, doing business as Goodrich Maintenance Supply Co., Oklahoma City, Okla. Claims use since Dec. 31,

Corlex—This for chemical solvent for removing adhesive cements. Filed Jan. 27, 1955 by Armstrong Cork Co., Lancaster, Pa. Claims use since Jan. 12, 1955.

Mol-O-Matic — This for various

Moi-O-Matic — This for various types of wall-mounted deodorizing devices. Filed July 27, 1954 by Mollen Chemical Co., Philadelphia. Claims use since Jan. 28, 1954.

Brush-O-This for dental plate cleaner. Filed Feb. 21, 1955 by Brush-O-Products, San Francisco. Claims

O-Products, San Francisco. Claims use since Feb. 9, 1955. Stain-A-Way—This for powd-

ered stain remover preparation for ered stain remover preparation for removing stain from food utensils. Filed Jan. 2, 1953 by Economics Laboratory, Inc., St. Paul, Minn. Claims use since Nov. 26, 1952.

Guaranteed—This for laundry soap powder. Filed May 12, 1954 by Swift & Co., Chicago. Claims use since in about 1912.

Purg-A-Terge—This for dry

Purg-A-Terge—This for dry cleaning composition for fabrics. Filed May 26, 1954 by E. F. Drew & Co., New York. Claims use since May 5, 1954.

More 'n More "suds"—This for liquid detargent. Filed June 9, 1954.

More 'n More "suds"—This for liquid detergent. Filed June 9, 1954 by Manu-Mine Research & Development Co., Mohnton, Pa. Claims use since Dec. 4, 1952.

Selinite—This for synthetic detergents for washing machines. Filed July 20, 1954 by Russell Chemical Co., Pittsburgh. Claims use since June 8, 1952.

Shamrack—This for soan Filed.

Shamrock—This for soap. Filed July 26, 1954 by Thomas Wynn, New York. Claims use since May 1954. Subject to interference with SN 681,504.

Bio-Machine—This for powd-ered detergent product for machine cleaning biological glassware. Filed Aug. 30, 1954 by Finger Lakes Chemi-cal Co., Etna, N. Y. Claims use since Aug. 25, 1954

vinyl-GLO — This for floor cleaning compound. Filed Dec. 15, 1954 by Jules Campos, Inc., Brooklyn, N. Y. Claims use since Oct. 25, 1954.

Sani-Coll-This for liquid detergent cleaning and sanitizing compound for milk plant and dairy farm equipment. Filed Aug. 30, 1954 by Finger Lakes Chemical Co., Etna,

N. Y. Claims use since Apr. 12, 1954.

Twin-Pak—This for chemical preparation used as a moth preventive or closet deodorant. Filed May 22, 1953 by Sterling Co., St. Louis, Mo. Claims use since Mar. 10, 1953.

kleerblu—This for starch for laundry and industrial use. Filed June 1. 1954 by Joseph C. Scott, Charlotte, N. C. Claims use since May 20, 1954.

Solvay-This for insecticidal, fungicidal, deodorant and bleaching compositions. Filed June 16, 1954 by Allied Chemical & Dye Corp., New York. Claims use since Jan. 15, 1953.

Classic — This for soap. Filed Apr. 1, 1955 by Swift & Co., Chicago. Claims use since September 1912.



sodium phosphates

Sodium Tripolyphosphate

Trisodium Phosphate

CRYSTALLINE MONOHYDRATE

Tetrasodium Pyrophosphate

ANHYDROUS

Sodium Polyphos

(SODIUM HEXAMETAPHOSPHATE)

(SODIUM TETRAPHOSPHATE) SODIUM ACID PYROPHOSPHATE
TRISODIUM PHOSPHATE CHLORINATED
DISODIUM PHOSPHATE
ANHYDROUS - CRYSTALLINE

MONOSODIUM PHOSPHATE

Blockson is also a major producer of ...

SULFURIC ACID
SODIUM FLUORIDE
SODIUM SILICOFLUORIDE
HYGRADE FERTILIZER
NONIONIC SURFACTANT-TEOX 120

BLOCKSON CHEMICAL COMPANY

Division of Olin Mathieson Chemical Corporation



ED

ES



In this composition we present an entirely new olfactory experience. We are proud to state that in it we have created a yet unknown note to the range of existing odoriferous products. ... It has that rustic-green note reminiscent of field grass

PRAIRIAL

and flowers warmed by the sun. As the name implies, it has a vernal rural character harmoniously matching all floral notes in perfumery with special congeniality to Rose, Magnolia and Lily of the Valley. ... It is very pungent

and tenacious and can be used in large proportions in colognes and toilet waters. ... The character, distinction and personality so apparent in this composition are attained by the presence of newly discovered chemicals whose total accounts for 30% of the formula. As a matter of interest, we can list Glycolierral, Phellandral and a series of novelties as yet nameless. ... It may be advantageously and perfectly combined with all floral absolutes, Woods such as Sandalwood, Vetyvert, Cedarwood and their derivatives, Ionones and bases of the ARAUCARIA type.

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News

Tormey Los Angeles V.P.

William J. Tormey has been elected vice-president of Los Angeles Soap Co., parent company of



William J. Tormey

White King Soap Co., Los Angeles, it was announced recently. He is now vice-president and director of sales and advertising for both firms. Previously Mr. Tormey served as sales manager and Arizona district manager for White King.

--⋆— Essential Completes Move

Essential Chemical Co., Milwaukee, has completed the move into its new manufacturing plant at Fredonia, Wis., it was announced late last month by James H. Wheefer, Sr., president. The new Essential plant is located on a 50 acre site on Highway 57 in Fredonia. The highway is being rebuilt into a four lane road, and the work should be completed shortly, according to Mr. Wheeler. The company maintains its executive and sales offices at 5906 N. Port Washington Road in Milwaukee.

Bon Ami Earnings

For the nine months ended Sept. 30, 1955 Bon Ami Co., New York, and subsidiaries reported net income declined to \$93,002 from \$115,405 during the corresponding period of 1954. Class A

share earnings were \$1.04 against \$1.29 in the three quarters of 1954.

Solly in Bible Campaign

Charles B. Solly, president of Harley Soap Co., Philadelphia, recently accepted the chairmanship for the soap industry in the Laymen's National Committee for this year's National Bible Week. The committee's purpose is to foster better understanding of the principles laid down in the Bible.

Edward Magnuson Dies

Edward Magnuson, founder and president of Magnuson Products Corp., Brooklyn, N. Y., died in his sleep Oct. 16. He was born in Kalmar, Sweden, in 1878, became a United States citizen in 1913. Having worked as a soap maker and pioneered in the detergent field he organized the Magnuson Products Corp. in 1923. In addition he owned and headed Canadian Permag Products, Ltd., in Quebec.

Mr. Magnuson was decorated twice by the late King Gustav of Sweden: in 1938 he received the Sweden-Delaware Tercentary medal and in 1941 he became a Chevalier of the Order of Vasa. His widow, a daughter, a son, and one grand-daughter survive.

Edward Magnuson



Kutol Names Rielley

John W. Rielley has joined Kutol Products Co., Cincinnati, as Chicago divisional manager, it was



John W. Rielley

announced last month by James E. Skidmore, general sales manager. Prior to joining Kutrol Mr. Rielley was associated with Pelron Corp., Chicago. In his new position he serves the trade in the greater Chicago area with Kutol's entire line of hand cleaners. These products are specifically formulated to meet the individual requirements of plants and industrial workers.

A. R. Joslin Dies

Allen R. Joslin, 41, sales manager of Andrew Jergens Co., Cincinnati, died Oct. 28.

Three New Oakite Reps.

Three new technical service representatives were appointed recently by Oakite Products, Inc., New York. John A. Price has been assigned to serve accounts in the food industry in the West Chicago area; John C. Mullarkey will work in the Phoenix, Ariz., district, and Charles L. Blasihgame is servicing accounts in Dayton, O. The new representatives recently completed an eight-week training course in the field.

For solutions to your polyethylene-fragrance problems rely on Givaudan experience



Polyethylene containers have brought exciting new merchandising opportunities to manufacturers of scores of cosmetic and other products. And the future is bright with still greater possibilities!

But—right now these containers present special problems in fragrance that require specialized knowledge and experience to solve.

Givaudan has conducted extensive research in such problems as perfume loss through permeation, and the behavior of fragrant materials with various vehicles and mixtures under differing conditions in polyethylene containers.

You will find Givaudan's experience invaluable in selecting fragrances that bring lasting satisfaction... and continued sales success for your polyethylene-packaged products.



Better perfume materials through constant research and creative ability

GIVAUDAN-DELAWANNA, INC. 330 West 42nd Street, New York 36, N.Y.

Branches: Philadelphia • Boston • Cincinnati
Detroit • Chicago • Seattle • Los Angeles • Toronto

"Soap on Way Out" SAACI Clinic Told

IICOAP is on its way out. Not that we shall see it completely disappear; a chemical dies hard." These views of Dr. Henry B. Hass, president of the Sugar Research Foundation, New York, were contained in an address concluding the fourth chemical sales clinic of the Salesmen's Association of the American Chemical Industry, held at the Roosevelt Hotel, New York, Oct. 24. In his talk, entitled "What Will You Be Selling Tomorrow," Dr. Hass also declared that "It is a disgrace to chemistry that the modern housewife should have to struggle with the ring in the bath tub and the wash bowl." He also pointed out that already "five eighths of the market for soaps and detergents in the United States has been taken over by detergents."

"The sucrose monofatty acid esters may be the answer; if not, something else will be found which will clean our skins without irritation and still be indifferent to calcium," Dr. Hass commented.

In his predictions of chemical things to come, Dr. Hass, in discussing synthetic fibers, stated that "we shall not be satisfied with fibers which cling to dirt; a monomolecular layer of fluorocarbon anchored by active groups will largely solve the problem of textile cleanliness."

Terming salesmen and research people as part of a team, Dr. Hass observed that one of the advantages of the Salesmen's Association of the American Chemical Industry is that it "bridges the gap between sales, research and development and thus assists in promoting the team spirit which is absolutely necessary for progress."

Earlier in the day the clinic heard individual discussions of: "Were You Born to Be an Effective Chemical Salesman?", by Jack Klein, president of Klein Institute for Aptitude Testing, Inc.; "How an Ordinary Fellow Becomes a Salesman," by Robert A. Gopel, manager, personnel sales develop-

ment, Koppers Co.; "The District Office—How to Run It," by W. Edward Keegan, sales manager, Shell Chemical Corp., and "The Mutual Dependence of Management and Salesmen," by J. Warren Kinsman, vice-president, E. I. du Pont de Nemours & Co. The luncheon speaker was John R. Hoover, chairman of the board of the Manufacturing Chemists' Association and president of B. F. Goodrich Chemical Co.

Four concurrent panel discussions featured the afternoon session. Subjects discussed were: "What It Takes to Be a Salesman"; "Training for Chemical Salesmen—By Their Bosses and Themselves"; "How to Run the District When You Are Manager," and "Is Selling for Distributors Different?"

Colgate Grant For Rutgers

A \$23,000 grant from Colgate-Palmolive Co., Jersey City, N. J., to support basic research in chemistry at Rutgers University, New Bruswick, during the next two years was announced Oct. 12 by Lewis Webster Jones, president of the State University. Thomas H. Vaughn, Colgate vice-president for research and development, presented to Dr. Jones a check for \$11,500 representing the first installment of the grant. This gift augments \$12,-

000 presented to Rutgers in 1954 to establish the Colgate-Palmolive Research Fund in the school of chemistry and a \$20,000 contribution to the Rutgers bureau of biological research. The bureau's work includes projects involving the use of radioactive substances as tracers for drugs under study.

J. L. Smith Joins Haag

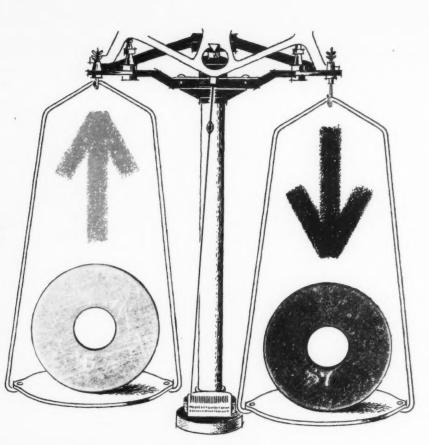
Jay L. Smith recently joined Haag Laboratories, Inc., Blue Island, Ill., as treasurer and sales promotion manager. Previously he was controller of the Clyde Division of Whirlpool Corp., St. Joseph, Mo., with which he had been associated from 1951 until 1955. Mr. Smith will work with Ralph F. Haag, sales manager.

A 1941 graduate of the University of Illinois, where he received a B.S. in business administration, Mr. Smith also received a law degree from that school in 1942. He received a master's degree in business administration from Harvard in 1946. From 1943 to 1946 he was a first lieutenant in the U.S. Army, and served for 33 months in the European Theater. Mr. Smith was a public accountant from 1946 to 1947; taught economics and finance at Northwestern University in 1948, and from 1948 until 1951 practiced law.

Dr. Thomas H. Vaughn, left, vice-president for research and development of Colgate-Palmolive Co., Jersey City, N.J., presents check for \$11,500 to Dr. Lewis Webster Jones, right, president of Rutgers University, to support basic research in the State University's school of chemistry. Looking on is Dr. Peter A. van der Heulen, director of the school.



HOW
PQ
SILICATES
PROTECT
ALUMINUM



EFFECT ON ALUMINUM OF DETERGENT SOLUTIONS AT INDICATED CONCENTRATIONS

0.06% Alkyl-Aryl Sulfonate Plus 0.06% Phosphate Plus Silicate

Weight Loss in MG. per SQ. DM. in Two Hours at 60° C.

	Sodium Tripolyphosphate			Tetrasodium Pyrophosphate		
	No Silicate	0.012% Silicate	0.06% Silicate	No Silicate	0.012% Silicate	0.06% Silicate
Alkyl-Aryl Plus Phosphate	53 MG			32 MG		
N Silicate Na ₂ O:3.22 SiO ₂	53 MG	1 MG	None	32 MG	None	None
RU Silicate Na ₂ 0:2.40 SiO ₂	53 MG	3 MG	None	32 MG	1 MG	1 MG
B-W Silicate Na ₂ O:1.60 SiO ₂	53 MG	4 MG	None	32 MG	1 MG	None

LEFT — Washed with 0.06% alkyl-aryl sulfonate plus 0.06% sodium tripolyphosphate without silicate; weight loss 53 MG per SQ.DM.
RIGHT — Washed with 0.06% alkyl-aryl sulfonate plus 0.06% sodium tripolyphosphate plus 0.06% silicate; no weight loss.

PQ silicates of soda used in detergent formulations with alkyl-aryl sulfonate and sodium tripolyphosphate or tetrasodium pyrophosphate reduce attack of these mixtures on aluminum. How well PQ silicates work for you is measured by weighing the aluminum washed in synthetic detergents with and without silicate. Note from the table, the striking protection you get with any of the siliceous PQ silicates.

Ask for a copy of recent studies "Silicates as Corrosion Inhibitors in Synthetic Detergent Mixtures".



PQ SOLUBLE SILICATES

PHILADELPHIA QUARTZ COMPANY

1152 Public Ledger Bidg., Phila. 6, Pa.

P Q WORKS: Anderson, Ind., Baltimore, Md., Chester, Pa., Gardenville, N. Y., Jeffersonville, Ind., Kansas City, Kans., Rahway, N. J., St. Louis, Mo., Utica, Ill. ASSOCIATES: Philadelphia Quartz Co. of California, PLANTS: Berkeley & Los Angeles, California, Tacoma, Wash. National Silicates Limited, Toronto, Canada

Three New Procter & Gamble Directors

PROCTER & Gamble Co., Cincinnati, elected to the board of directors last month Edwin J. Thomas, president of Goodyear Tire & Rubber Co., Akron, O., and Kelly Y. Siddall, P & G vice-president. At the same time Mr. Siddall was elected administrative vicepresident to succeed Renton K. Brodie whose retirement was announced after 36 years with the company. W. Rowell Chase becomes vice-president in charge of advertising and James M. Ewell was named vice-president in charge of manufacture.

Mr. Siddall, a vice-president of Procter & Gamble since 1954, joined the firm's accounting department in 1926. In 1939 he was named chief accountant and in 1942 he became comptroller. Mr. Brodie, whom he succeeds, will continue as a director of the company and as trustee of several of P&G's employee benefit plans. A director since 1934, Mr. Brodie went with the company as a research chemist in 1919, was elected vice-president in charge of manufacture in 1931. In 1954 he became administrative vice-president.

Mr. Chase joined Procter & Gamble in 1931 as a member of the advertising department and was made manager of the brand promotion division of that department in 1936. He was named advertising manager in 1951 and in 1954 was

made general advertising manager of the company and a member of the administrative committee.

Mr. Ewell joined the firm in 1937 immediately following his graduation from college. He has held executive positions at several of the company's factories in this country and for two years served as director of manufacture for Thomas Hedley & Co., P&G's English subsidiary. Since 1954 Mr. Ewell has been manager of manufacture for the company and a member of the administrative committee.

In his annual report to P&G stockholders R. R. Deupree, chairman of the board, stressed continued emphasis on research projects and the organization of the firm's business into separate well-defined lines, as a means of meeting continuing extreme competition.

"We have never seen competition keener, both in this country and overseas, than during the past year," he said. "I can tell you it requires everything we have to progress in today's competitive situation."

Pointing to the changed complexion in P&G's business during the post-war years, Mr. Deupree said research projects undertaken by the company ten or more years ago are paying off today and that P&G's future progress is tied closely to the activities now going on in the company's laboratories.

"Ours is a business," he said, "always directly concerned with keeping in step with the times and the changing American home. The ability of the company to adjust itself constantly to new conditions and changing products demanded by the American housewife is probably our greatest strength today and our greatest promise of future growth and success."

Referring to the separation of P&G's business along well-defined lines in the case of soaps and synthetic detergents, drug products, cottonseed crushing and the overseas operations, Mr. Deupree told shareholders that "This seems a most natural and normal way of increasing our business and doing it in a way that is basically sound and that should continue to be profitable to our shareholders."

New Monsanto Plant Mgr.

Eugene N. Hetzel, has been appointed plant manager at the Carondelet plant of the inorganic chemical division of Monsanto-Chemical Co., St. Louis, Mo., it was announced last month. At the same time it was announced that M. Brooks Shreaves will succeed Mr. Hetzel as production superintendent, a position he held since 1952. In his new position Mr. Hetzel replaces Lee Cowie, who retired.

Mr. Hetzel joined Monsanto in 1936 as a research chemist with the former phosphate division. Mr. Shreaves has been with the firm since 1944.

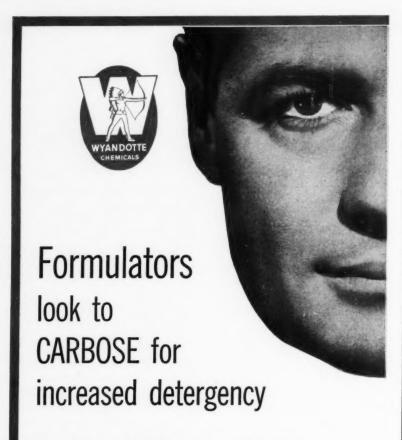
W. Roland Chase



James M. Ewell



NOVEMBER, 1955



Wyandotte's CARBOSE increases whiteness retention and carbon-soil removal

CARBOSE,* Wyandotte's special form of CMC, has increased the cleaning efficiency of soaps and synthetic detergents almost as spectacularly as the invention of the modern washer has revolutionized the washing process over old hand methods. It is a detergency promoter that combines exceptional economy with outstanding efficiency.

In cases where Carbose replaced 5% cf the soap or synthetic detergent in various formulations, carbon-soil removal and whiteness retention increased as much as 200% over the original product! Carbose helps reduce skin irritation. Its fine particle size insures rapid and maximum solubility.

We would be pleased to discuss Carbose benefits at your convenience and to work with you toward giving your products distinct advantages. If you'd like samples and literature on Carbose, or our other outstanding products for use in soap, detergent or chemical-specialty formulations—call your Wyandotte representative, today, or write us direct. Give as much detail as possible on your product, process, or purpose. Wyandotte Chemicals Corporation, Wyandotte, Mich. Offices in principal cities.

*REG. U.S. PAT. OFF.



BLEACHING AGENTS • CARBOXYMETHYLCELLULOSE • CAUSTIC SODA • CALCIUM CARBONATE • CALCIUM CHLORIDE • CHLORIDE • CHLORINE • DETERGENTS (NONIONIC AND ANIONIC) • EMULSIFYING AGENTS • SODA ASH • SODIUM BICARBONATE • SOLVENTS (CHLORINATED) • WATER SOFTENERS • WETTING AGENTS

R. E. Horsey on TV

R.E. Horsey, vice-president in charge of sales for Givaudan-Delawanna, Inc., New York, was interviewed by Conrad Nagel last month on the television program "Mr. Executive." A short film taken at the Givaudan factory in Delawanna, N. J., was also featured on the program.

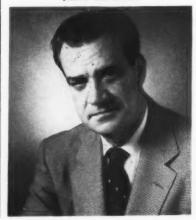
Antara Caustic Potash

Antara Chemicals, a sales division of General Aniline & Film Corp., New York, announced last month that the firm's new caustic potash plant at Linden, N. J., is scheduled for production in January 1956. This will mark GAF's entry into the heavy chemicals field. The plant will produce by the mercury cell process both standard and low chloride grades.

Shumaker to Philadelphia

James Shumaker was appointed last month as manager of the Philadelphia branch of Fritzsche Brothers, Inc., New York. He replaces Warren R. Godfrey who was recently transferred to New York to assume charge of perfume sales. Prior to his new assignment Mr. Shumaker was manager of Fritzsche's Cleveland office which has been closed. Most of its accounts have been transferred to the Cincinnati branch. Mr. Shumaker is assisted by Robert Hughes, who will continue to cover the accounts he has been handling since joining the firm two years ago.

James Shumaker



SOAP and CHEMICAL SPECIALTIES

Onyx Elects Brick

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st m m in Onyx Oil & Chemical Co., Jersey City, N. J., announced last month the election of Leon P. Brick



Leon P. Brick

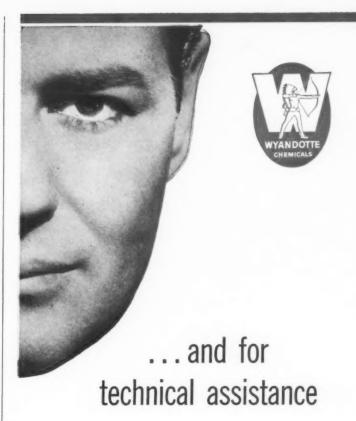
as executive vice-president and arting president of the company. Mr. Brick joined Onyx 28 years ago as a salesman. Prior to his recent election he was vice-president in charge of sales. In his new position he has charge of sales from the firm's home office and six branch offices. Before joining Onyx he was associated with E. I. du Pont de Nemours & Co., Wilmington, Del.

Crossley Joins Shea

A. W. Crossley has joined Shea Chemical Corp., Jeffersonville, Ind., as executive vice-president, it was announced last month by Vincent H. Shea, president. From 1948 until recently Mr. Crossley served as treasurer of Diamond Alkali Co., Cleveland, O. Prior to 1948 he was assistant general manager of Potomac Electric Co., Washington, D. C. He holds degrees in chemical engineering, law, and business administration.

Ware in New Post

Thomas M. Ware has been elected to the newly created office of administrative vice-president by International Minerals and Chemicals Corp., Minneapolis, it was announced late in October. At the same time Nelson C. White has been named vice-president of the company's potash division.



Exceptional products like Carbose* are the result of extensive Wyandotte research and field testing . . . the result of Wyandotte technical service in action. Applying Carbose to customers' needs has led to better soap and detergent formulations, as well as to dramatic improvements in other fields. Frequently, customers' problems have been the spark to entirely new products! Our service representatives and research scientists are one technical-service team – eager to serve you, ready to work with you on your formulating problems. If we can be of assistance now, write: Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.

To test the efficiency of Carbose formulations, nucleonics technicians "tag" soils with radioactive isotopes. Fabrics, dirtied with this soil, are washed, then examined. A Geiger counter measures the remaining soil (otherwise undetectable), assuring that Carbose formulations provide maximum carbon - soil removal and whiteness retention.







Since 1768, or nearly 200 years, the House of Chiris has dedicated itself to the Fifth Sense—the olfactive sense. In the development of Essential Oils, Floral Absolutes, Chemical Isolates, Synthetic Chemicals, and all of those creations and specialties which combine industrial aromatics with natural products and produce fragrance, the House of Chiris has a cherished history. Today Chiris maintains laboratories headed by experienced olfactive chemists who have available to them not only the "know how" of generations of Chiris chemists but also the research facilities of three continents and four modern laboratories located in: FRANCE—GRASSE & PARIS; GREAT BRITAIN—LONDON; BRAZIL—SAO PAULO and NEW YORK CITY. Whether Essential Oils, Isolates, or combinations thereof, are used as fragrance constituents by the perfumery, soap, cosmetics, or allied industries, we are happy to be consulted.

ANTOINE CHIRIS ... INC.

220 East 23rd Street, New York 10, N. Y.

GRASSE PARIS LONDON SAO PAULO

Chemical Senses, page 1, Moncrief-lists senses as follows: "sight, hearing, touch, taste, smell." Note smell is listed Fifth.

Detergents AOCS Fall Meeting Topic

A SESSION on detergents, including a paper on the manufacture of sucrose esters of fatty acids, which are useful detergents and emulsifying agents, highlighted the 29th fall meeting of the American Oil Chemists' Society, held at the Bellevue-Stratford Hotel, Philadelphia, Oct. 10-12.

The session on detergents, held Oct. 10, was presided over by J. Fred Gerecht of Colgate-Palmolive Co., Jersey City, N. J. The first paper of the session, "A Commercial Process for the Manufacture of Sucrose Esters of Fatty Acids," by Lloyd Osipow, Foster Dee Snell, William C. York and Arthur Finchler, all of Foster D. Snell, Inc., New York, was presented by Dr. Snell. He described the procedures for the preparation of fatty acid esters of sucrose. These sucrose esters, he said, are useful detergents and emulsifying agents. Because they are "non-toxic, odorless and tasteless, it can be expected that they will find applications in the food, pharmaceutical and cosmetic industries," Dr. Snell reported.

The commercial process for the purification and preparation of fatty esters of sucrose involves the alcoholysis of a fatty acid of a volatile alcohol with sucrose. With a three to one molar ratio of sucrose to non-sugar ester, about 90 percent of the non-sugar ester is converted to the monoester of sucrose. A similar percentage conversion to the diester of sucrose is achieved using a one to two molar ratio of sucrose to non-sugar ester. Analytical methods were described in the paper for the determination of sucrose esters, non-sugar esters, unreacted sucrose and soap.

"Part of the interest in the sugar esters is due to the ready availability of raw materials," Dr. Snell pointed out. "Suitable fats and oils can be obtained conveniently in most areas of the world. Sugar is cheap and abundant in many countries and could be made available for industrial use at low cost in others which control sugar as a source of national revenue. This might be done by sale of a 'de-

natured' grade," Dr. Snell explained. "Countries producing sugar will not be in a position to manufacture surfactants without major importation of raw materials. Even in the United States, with its large petroleum industry and its tremendous production of alkylate, the availability and low cost of both sugar and tallow make these sucrose esters economically attractive," he said.

The effect of soil composition upon foam persistence in the evaluation of dishwashing detergents was discussed in the next paper, "The Effect of Soil Composition in Evaluation of Dishwashing Detergents" by F. J. Gozlow, V. J. Keenan and B. J. Meehan of Atlantic Refining Co., Philadelphia. In the paper, presented by Mr. Gozlow, it was found that of the 15 soils tested a mixture of bacon grease and whole egg mixed in a Waring Blendor and baked on dinner plates for 15 minutes at 150°F. gave good reproducibility and paralleled field differences. The ratio of bacon grease to egg must be adjusted to maintain the sensitivity of the test and yet keep the number of plates washed at a practical minimum, the authors pointed out.

A new technique for the evaluation of dishwashing detergent efficiency in terms of percentages of soil removed has been developed by the adaptation of conventional de-

Speakers at the detergent session of the American Oil Chemists' Society fall meeting in Philadelphia, l. to r.: F. J. Gozlow, Atlantic Refining Co., Philadelphia; L. O. Leenerts, Purex Corp., South Gate, Calif.; R. G. Bistline, Ir., Eastern Regional Research Laboratory, Philadelphia; J. Fred Gerecht, chairman, Colgate-Palmolive Co., Jersey City, N. J.; W. C. White, Quartermaster Research and Development Center, Natick, Mass., and Foster Dee Snell, Foster D. Snell, Inc., New York.





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tergency laboratory equipment. This method was described in the paper, "Soil Removal by Dishwashing Detergents" by Lester O. Leenerts, John F. Pietz and Jack H. Elliott of Purex Corp., South Gate, Calif. The test, according to Mr. Leenerts, who delivered the paper, has been shown to be reproducible and provides a sufficiently large range of removal percentages so that minor dishwashing detergent formula variations can be measured. The soils used are synthetic, containing ingredients encountered in home and restaurant dishwashing. The substrates to be cleaned can be varied to meet the needs of any particular test: glass, pottery or metal.

A new type of anionic water-soluble polymer which may be useful as emulsifying or thickening agents and have other uses as yet undiscovered was described in the paper, "Synthetic Detergents from Animal Fats. VI. Polymerizable Esters of a-Sulfonated Fatty Acids," by R. G. Bistline, Jr., A. J. Stirton, J. K. Weil and W. S. Port of the Eastern Regional Research Laboratory, Philadelphia.

The final paper of the session was, "Preliminary Report on a Rapid Method of Evaluating Detergency by Means of an Ultrasonic Transducer," by Joseph C. Sherrill and W. Craig White of the Quartermaster Research and Development Center, Natick, Mass. In the paper, Mr. White pointed out that:

Mechanical action is one of the most, if not the most, important factor in detergency. Heretofore no methods have been developed for precise quantitative measurement of the mechanical work required for the removal of a definite amount of soil from a textile or other surface. A measure of this work is a measure of the effectiveness of a detergent.

This measurement has been accomplished by the development of an ultrasonic transducer, in the shape of a truncated cone, which converts electrical to mechanical energy by means of a synthetic barium titanate piezo electric crystal. An electronic generator with a self-contained automatic frequency control unit working in conjunction with a volt-ampere-watt meter permits regulation and measurement of the power input of the cone.

The power output of the cone was determined experimentally by measuring the mean particle displacement in distilled water at the tip of the cone and computing the watts from the equation for the accoustical power of a sound wave.

The results of pilot plant studies on purification of crude glycerine were reported in a paper of that title by Glenn Prielipp of Dow Chemical Co., Midland, Mich., and Harold W. Keller of Illinois Water Treatment Co., Rockford, Ill. The pilot plant studies were carried out to demonstrate, on a commercial scale, the more favorable economics of glycerine purification using Illinois Water Treatment Equipment and the Dow Ion Exclusion process. Most ionic impurities are removed from soap lye crude glycerine without the use of distillation or evaporation, thus cutting operation costs. The residual impurities remaining after ion exclusion are removed by the conventional Illco glycerine process. After purification the glycerine solution is concentrated in stainless steel evaporators. The glycerine meets and exceeds CP specifications.

Dow Making Soda Ash

Dow Chemical Co., Midland, Mich., announced last month that commercial production of soda ash has started at its new \$3,000,000 Texas division plant at Freeport. The plant has a daily capacity of 300 tons Donald Williams, vice-president and director of sales said in announcing Dow's entry into the soda ash field.

Dow's own process based on research begun in 1945, will be used. The soda ash will be shipped in granular crystal form either in bulk or in 100-pound bags.

Cassullo Back from Europe

John L. Cassullo, president of Dodge & Olcott, Inc., New York, returned recently from a three week trip to Europe where he attended the International Food Fair held in Cologne, Oct. 1 to 9. Willem Lasthuysen, D & O flavor chemist, also attended the fair.

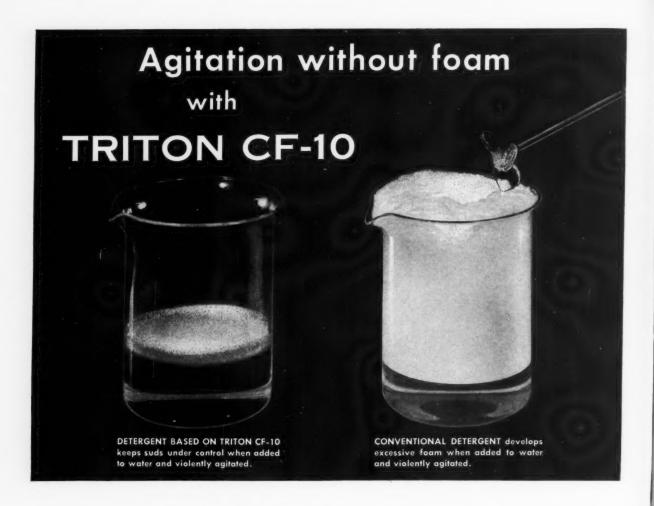
D&O celebrated its 157th anniversary in October, having been founded in 1798. The firm claims to be the oldest essential oil house in America.

Mich. Chem. Group Party

The Chemical & Allied Industries Association of Michigan will hold its annual Christmas party on Dec. 31 in the Grand Ballroom of the Sheraton-Cadillac Hotel, Detroit, Mich.

Marking first shipment of Dow soda ash are the operating personnel of the new plant and Dr. A. P. Beutel, Dow vice-president and general manager, Texas Division, l. to r.: George Jungerman, engineer; W. S. Chenault, plant superintendent; Dr. Beutel; A. F. Shorkey, Texas Division general superintendent of alkali products; and I. R. Schoppe, foreman.





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needed in combination with alkaline builders and other detergents.

With its low foaming, high detergency action, TRITON CF-10 can lead to big improvements in automatic dishwashing compounds. It also promises improved performance for laundry, dairy, and metal cleaning compounds.

TRITON CF-10 is available in commercial quantities. For samples or typical formulations, see your Rohm & Haas representative or write direct.





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Bing Succeeds Prichard

William K. Bing, chief of Program Analysis Branch of the Oils and Peanut Division, U.S.D.A.,



William K. Bing

will join the Bureau of Raw Materials for American Vegetable Oils and Fats Industries Dec. 1, as assistant manager of the Washington office. He will replace George L. Prichard who resigned from the Bureau Oct. 1, to become Washington representative of the National Soybean Processors Association. Mr. Prichard will also retain his position as executive secretary of the National Flaxseed Processors Association.

Prior to his transfer to the Program Analysis Branch, Mr. Bing was with the Production and Marketing Administration, U. S. D. A., where he had charge of the tung oil and olive oil price support programs. He entered the department in 1943, was on the faculty of Kansas State College from 1947 to 1949, when he rejoined U.S.D.A.

Purex Increases Board

Stockholders of Purex Corp., South Gate, Calif., voted unanimously to increase the board of directors from eight to eleven members. At the firm's annual meeting held late last month the stockholders also authorized an increase in capital stock from 750,000 shares to 2,500,000 shares. Adrien C. Pelletier, chairman of the board and president of the company and all other officers were re-elected. Richard Link was voted the ninth mem-

ber of the board which was also reelected. Two positions on the board were left vacant.

Mr. Pelletier reported dry "Trend" detergent selling at a rate of seven percent ahead of the same period last year. Combined sales of the newly introduced liquid "Trend" and the dry "Trend" exceed previous sales by 31 percent. Bleach sales are ahead about eight percent. Total sales expanded from \$21,119,000 in 1954 to \$25,113,000 in 1955, with profits before taxes for the first quarter up 22.2 percent over last year's first quarter.

C.M.C. Labs Move

C. M. C. Laboratories Co., New York sanitary chemicals and maintenance supplies firm, has moved to new and larger quarters it was announced recently. The firm is now located at 116 West Houston Street, New York 12, telephone GRamercy 7-8735.

Renderers Talk Markets

The National Renderers Association held its 22nd annual meeting Nov. 7 and 8 at the Bismarck



John J. Hamel, Jr.

Hotel, Chicago. Promotion through research was to be one of the main themes of the convention according to John J. Hamel, Jr., John J. Hamel Co., Birmingham, Mich., presi-

Emery Sales Meeting

"Partners in Progress" was the theme of the chemical sales conference held recently by Emery Industries, Inc., Cincinnati. The firm's contributions to this progress in the form of new products such as diesters for synthetic lubricants, and in the form of product uses in fresh fields such as the manufacture of polyurethanes, petroleum additives, and other specialties, were presented to the salesmen. J. J. Emery, president, and A. W. Schubert, executive vice-president, outlined future expansion plans. The four-day conference concluded with a tour of the firm's plant and labs.

Among those present for the recent sales conference of Emery Industries, Inc., Cincinnati, were: seated, I. to r, R. T. Hull, J. R. York, W. T. Meinert, W. C. Sowers, H. D. Armitage, A. R. McDermott, R. J. Roberts, J. E. Quinty, W. J. Siemens, J. D. Farr; center row, A. C. Fusaro, P. M. Bogner, A. Moore, K. K. Boyd, J. P. Clancy, J. W. Ritz, J. A. Funk, R. F. Brown, O. W. B. Hymer, J. P. Kramer; top row, T. L. Reiling, E. W. Sack, R. A. Behrmann, C. T. Burgess, W. A. Colby, L. F. Church, R. D. Aylesworth, L. J. Hadobas, W. J. Major, N. A. Ruston, D. R. Eagleson, V. W. Colby.



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dent of the association. A panel presentation on markets in 1956 closed the meeting. Ralph Van Hoven, Van Hoven Co., St. Paul, Minn., was moderator and the following markets were studied: "Industrial Fatty Acids," by R. A. Behrmann, director of purchases for Emery Industries, Inc., Cincinnati; "Soap Industry," by W. W. Hastings of Procter & Gamble Co., Cincinnati; "Fats in Feeds," by Robert J. Fleming, National By-Products, Inc., Des Moines, Ia.; and "Export Market," by Martin I. Rubin, H. M. Rubin Co., Long Island City, N. Y.

Weisman in Europe

J. L. Weisman, director of the foreign division of Felton Chemical Co., Brooklyn, is concluding a seven week tour of Europe, which began in October. His itinerary calls for visits at the Felton plant in Versaille, France, as well as with the firm's representatives in Germany, Switzerland, Austria, Greece, and Italy.

Buys Surgeon's Soap

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Pharma-Craft Corp., New York, acquired "Physicians' and Surgeon's Soap" from Physician's Supply Co., Cincinnati, it was announced recently. The 67-year old product will continue to be marketed through normal wholesale and drug channels. In addition to this newly acquired item Pharma-Craft markets two other soaps: "Eratol" medicated soap and "Ting" which comes in the form of antiseptic soap, ointment and cream.

Rebuild Chlorine Plant

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Chlorine production facilities at the South Carleston, W. Va., plant of Westvaco Chlor-Alkali Division of Food Machinery and Chemical Corp., New York, will undergo extensive modernization, it was announced last month by Ernest Hart, executive vice-president of FMC. The program will get under way this year, is scheduled for completion by mid-1957 and calls for expenditure of several million dollars.

Edmon Joins Verley

Harold J. Edmon, formerly vice-president of Roubechez, Inc., New York, recently joined Albert



Harold J. Edmon

Verley & Co., Linden, N. J., where he is in charge of the essential oil department. He also handles the development of industrial reodorants. Since joining Verley, he has visited Europe to consult with Mr. Robert, general manager of Verley's affiliate, Aromescence, Inc., Paris. His trip also included visits with friends and Verley contacts in the aromatic chemical and essential oil field in several European countries.

Prior to joining Roubechez in Dec., 1953, Mr. Edmon was manager of Naugatuck Aromatics, which was a department of the Naugatuck Chemical Division of United States Rubber Co., New York. The aromatics chemicals department was acquired by Roubechez at that time.

Fatty Alcohol Bulletin

"Dytol" fatty alcohols are described on data sheets published recently by Rohm & Haas Co., Philadelphia. Two of the five products in this series are new: "Dytol J-68" (lauryl, n=9-13) and 95 percent lauryl alcohol, (lauryl, n=9-11). "Dytol A-24" and "Dytol B-35" are lauryls also, whereas "Dytol E-46" is a cetylstearyl mixture. These products are suggested as antifoaming and emulsifying agents, as detergents and for use in the man-

ufacture of quaternary ammonium compounds.

"Dytols" are available commercially in drum and tankcar quantities. The 95 percent lauryl alcohol is available in pilot plant quantities but can be supplied in commercial quantities on short notice.

New Conoco Pilot Plant

Completion by Continental Oil Co. of an unusual scientific research building, a \$500,000 research pilot plant built at Ponca City, Okla., around an unused oil storage tank, was announced recently by Harold G. Osborn, Continental vice-president.

Uniquely designed and constructed by Conoco's own engineering department, the pilot plant is a new facility for the company's 30-year-old research program, which was expanded in 1952 with the completion of the \$2,250,000 research laboratories at Ponca City. Its primary use will be for the exploration of improved processes for manufacturing petrochemicals already developed in the research laboratories and in helping to create new and useful chemicals for making synthetic detergents and other items.

The dismantled and reassembled 80,000 barrel tank is attractively faced with aluminum and porcelain enamel. It features windows, glass doors, a canopied main entrance and a separate entrance for trucks.

The interior of the building has a spacious and circular open area, approximately 60 feet in diameter and extending from floor to ceiling, which serves as the pilot area. Here kettles of various sizes are used for pilot or test runs of promising chemical products, designed to develop economical manufacturing methods of these products.

Surrounding the pilot area are three floors of air-conditioned laboratories, offices, high-pressure cells, and utility and conference rooms—all built on the curve. These floors provide a total of 33,000 square feet of floor space for some 60 Conoco scientists and technicians.

Novelty Soaps Becoming "Best Sellers"

NOVELTY soaps and toilet kits with a child appeal are rapidly moving into the "best seller" class, it was reported by manufacturers and distributors who participated in the annual Beauty and Fragrance show, staged by the Chicago Associated Toiletries Salesmen at the Palmer House, Chicago, recently.

Included in the array of items for the kiddy trade was almost everything from pink elephants or "Davy Crockett" soaps for the boys to combination packages of soap with tale, toilet water or lip stick for "little glamour girls." These "combo's," it was said, are enjoying the heaviest trade in the juvenile market.

Tinkerbell Toiletries, distributed by Tom Field, Ltd., Yonkers, N. Y., displayed 24 different items exclusively for children, which ranged from a wash mitt with a "baseball" of Castile Soap, to a well built "Bubble Bus" that the kids can play with after using the generous bag of bath crystals packed in it.

Monogram Soap Co., 30-year old Los Angeles firm, claimed a "first" with a "Davy Crockett" soap, carrying the famous scout's picture, which it is claimed "won't wash off." Packed five to a box, with a child's coloring book added for good measure, the item is "going over big," according to Samuel Greenblatt, proprietor.

Alfred D. McKelvey Co., New York, distributors of the "Seaforth" line of toiletries for men, announced the availability shortly of a "Wee Scot" kit for boys, so new that the first promotional circulars were still at the printer's at the time of the Chicago show. G. R. O'Reilly, sales manager, called attention to the new packaging for all Seaforth products, using paprika and green colors to emphasize the "family" relationship of all items.

Allen B. Wrisley Co., Chicago, had a "Kiddy Bubble Bath" in a newly designed package and

a new "Bobo" soap clown, among other child items. Featured by Wrisley, also, was a "Blue Fern" cologne, in aerosol dispenser.

Lightfoot Schultz Co., New York, had added a number of newly designed novelty soaps to their constantly changing line. Included were six new child gift items, protected from dust and breakage by a transparent plastic dome-like cover. Lightfoot was also offering four new adult gift packages in assorted designs, scents and colors.

Elaborately designed gift packages for the coming Christmas season were much in evidence in other displays throughout the show area. John H. Breck, Inc., Springfield, Mass., showed, for instance, a new shampoo and hair dress kit with an "evening bag" to hold a comb, and brushes for hair and clothes.

Hewitt Soap Co., Dayton, Ohio, offered their annual gift chest, newly designed for the 1955 holiday season, which contains eight guest cakes and four bath size cakes. Hewitt announced also that after an absence from the market, "Pall Mall is back," production having been resumed of this former famous featured item. Tom Norris, veteran Hewitt salesman, was also promoting their "Dollar Sellers" of Kensington, Omnibus and Lana

soaps. Sales have been heavy on the company's line of giant bars of French milled bulk soaps for promotions, Mr. Norris reported.

Herb Farm Shop, Ltd., New York, stressed their new line of "Botany" cosmetics, including a superfatted "Botany" lanolin soap, for which sales rights were acquired early this year from the originator, Botany Woolen Mills.

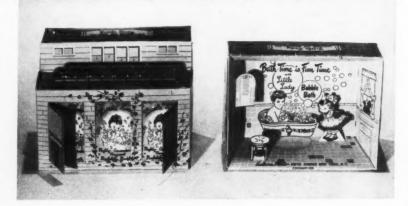
Trylon Products, Chicago, featured a new "Aqua Vie" lanolated bubble bath for use in either tub or shower, which was placed on the market in July. Displayed, too, was Trylon's varied line of bath tablets in gift packages and in popular package designs.

Soaps and shampoos were included in the displays of all well known toiletries houses, including Shulton, Inc., Hudnut, Helena Rubenstein, The House For Men, Revlon, Yardley and others, who filled all available space on the eighth floor and part of the ninth at Chicago's Palmer House.

Woodbury Increases Stock

An increase to one million dollars in the authorized common stock of Woodbury Chemical Co., St. Joseph, Mo., was announced recently by H. A. Woodbury, president. Richard W. Douglas has been named vice-president and Leonard R. Everett secretary of the company, it was also announced.

New doll house package for "Little Lady Bubble Bath" of Helene Pessl, Inc., New York, appeals to the younger set. Unique folding carton features the slogan, "Bath Time Is Fun Time." Each doll house contains 20 packets of bubble bath. Cartons produced by Alford Cartons, Ridgefield Park, N. J., were designed by Arnold Perlman, president of Helene Pessl.



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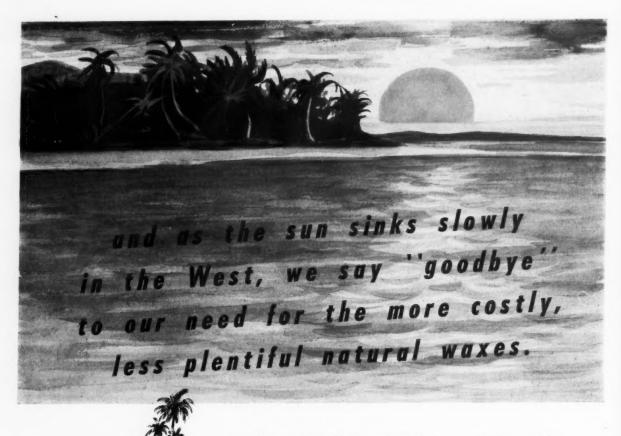
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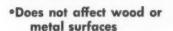
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- ☐ Dairy Cattle

NOVEMBER, 1955

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TEXTILES COSMETTS SURFACE ACTIVE AGENTS ETHANOLAMINE EMULSIONS LEATHER CLEANING RUBBER CORROSION INH TO MORTAR AND CONCRETE INDUSTRIAL METAL KKI TEXTILES COSMETICS ETHANOLAMINE EMULSIONS EMULSIFYING AGITS RUBBER CORROSION INHIBITORS LEATHER CLEANING AMINE EMULSIONS COSMET 5 CORROSION INH TO RUBBER COSMETICS INDUSTRIAL METALVRKI EMULSIFYING ACUTS RUBBER CORROSION INHIBITORS ETHANOLAMINE EMULSIONS TEXTILES COSMET SURFACE ACTIVE AGENTS LEATHER CLEANING RUBBER CORROSION INH MORTAR AND CONCRETE COSMETICS INDUSTRIA TEXTILES ETHANOLAMINE EMULSIONS CORROSION INHIBITORS NG A RUBBER DSME ETHANOLAMINE EM CRETE OS COSME ITOF CORROSION IN UBBER RKII INDUSTRIAL METAL COSMETICS EMULSIFYING UBBER CORROSION INHIBITORS LEATHER COSME SURFACE ACTIVE AGENTS TEXTILES ETHANOLAMINE EMULSIONS ITOR CORROSION IN RUBBER LEATHER CLEANING COSMETICS INDUSTRIAL METAL TEXTILES EMULSIFYING CORROSION INHIBITORS UBBER COSME ETHANOLAMINE EMULSIONS **TEXTILES** SURFACE ACTIVE AGENTS ITOR CORROSION IN RUBBER LEATHER CLEANING MORTAR AND CONCRETE INDUSTRIAL METAL TEXTILES COSMETICS ETHANOLAMINE EMULSIONS EMULSIFYING CORROSION INHIBITORS RUBBER COSME ETHANOLAMINE EMULSIONS TEXTILES CORROSION IN RUBBER LEATHER CLEANING INDUSTRIAL METAL TEXTILES COSMETICS EMULSIFYING CORROSION INHIBITORS RUBBER COSME TEXTILES SURFACE ACTIVE AGENTS ETHANOLAMINE EMULSIONS ITOR CORROSION IN RUBBER LEATHER CLEANING MORTAR AND CONCRETE RKIN INDUSTRIAL METAL ETHANOLAMINE EMUL TILES COSMETICS EMULSIFYING CORROSION INHIBITORS LEATHER CLEANING

ORGANIC CHEMICALS • Ethylene Oxide • Ethylene Glycols • Polyethylene Glycols • Glycol Ether Solvents • Ethylene Dichloroethylether Formaldehyde • Methanol • Sodium Methylate • Hexamine • Ethylene Diamine • Polyamines • Ethanolamines • Trichlorophenol • Trichlorobenzene

MATHIESON

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INORGANIC CHEMICALS - Ammonia - Bicarbonate of Soda - Carbon Dioxide - Caustic Soda - Chlorine - Hydrazine and Derivatives - Hypochlorite Products - Nitrate of Soda - Nitric Acid - Soda Ash - Sodium Chlorite Products - Sulphate of Alumina - Sulphur (Processed) - Sulphuric Acid

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ECIFICATIONS

190-200 41/2 Max 2 Max

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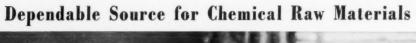
	GROCO 27 Regular	GROCO 28 Alkyd Grade
Titre	25° — 30°C.	25° — 29°C.
Color 51/4" Lovibond Red	4 - 8	1 - 3
Color 51/4" Lovibond Yellow	20 — 40	8 — 20
Color Gardner 1933	3 — 5	2 - 4
Color Gardner 1933 — after S, & W. Heat Test	_	5 — 8
Unsaponifiable	3.0% max.	1.5% max.
Saponification Value	196 — 202	198 — 203
Acid Value	195 - 201	197 — 202
Iodine Value (WIJS)	123 max.	125 — 135

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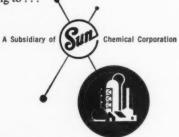


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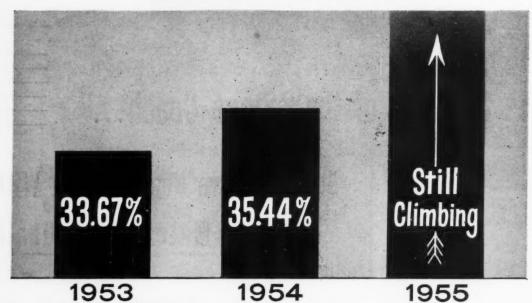
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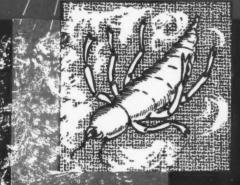
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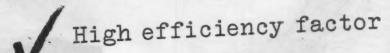
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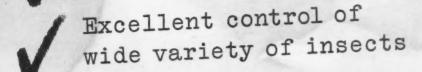
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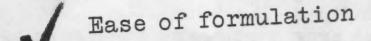
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Insecticidal Phosphorus Compounds

HE development by house flies of resistance to the chlorinated hydrocarbon insecticides stimulated interest in the use of organic phosphorus compounds. Investigations at the Orlando, Fla., laboratory in 1953 showed that Bayer L 13/59 was one of the most effective phosphorus compounds for use in baits for the control of resistant flies (Gahan et al. 1). This observation led to wider experimentation with the com-

By John A. Fluno

Entomology Research Branch, Agr. Res. Serv., U.S.D.A.

pound by various agencies. An impurity possessing high vapor toxicity to insects, later identified as

chlorination in the presence of alkali. Barthel and coworkers (3) have recently established its mole-'This work was conducted under funds allotted by the Department of the Army to the Entomology Research Branch.

'The author is indebted to the entire staff of the Orlando, Fla., laboratory, since the researches of all projects furnished data for this paper. The project leaders were C. V. Bowen, M. M. Cole, G. W. Eddy, J. B. Gahan, and J. C. Keller. cular structure and prepared a series of its homologs. The insecticidal action and vapor toxicity of diethyl 2-chlorovinyl phosphate, later designated as Shell OS 1836,

dimethyl 2,2-dichlorovinyl phos-

phate (DDVP), was isolated from

L 13/59 by Mattson, Spillane, and

Pearce (2), and they showed that

it could be prepared by dehydro-

Table 1. — Effectiveness of Bayer L 13/59 and some phosphorus compounds against early fourth-instar larvae of Anopheles quadrimaculatus. (2 replications.)

Orlando		I	ercent mort	ality in 48 ho	urs at indicate	d concentrati	on	
No.	Alkyl radical	10	1	0.1	0.05	0.025	0.01	Date
O-1		p.p.m.	p.p.m.	p.p.m.	p.p.m.	p.p.m.	p.p.m.	tested
		Dia	lkyl 2,2.2-tri	ch'oro-l-hydro	xyethylphospho	nates		
19763	Dimethyl (Bayer L 13/59)	100	100	96	58	42	34	Jan. 20, 195
17763	Diethyl	100	100	96	30	20	0	May 8, 195
20666	Dipropyl	98	30	12	-	_		Oct. 28, 195
20667	Diisopropyl	44	_	_	-	****		do.
20668	Dibutyl	82	_	_	_	_	_	Oct. 2, 1953
17770	Bis(2-ethylhexyl)	44		_	_	_	_	May 8, 1951
20759	Dicyclohexyl	24	_	_	_	_	man.	Dec. 28, 195
			Dialkyl 2	2-dichlorovin	yl phosphates			
20738	Dimethyl (DDVP)	100	100	100	100	92	-	Sept. 7, 195
20739	Diethyl	100	100	100	100	100	68	do.
20740	Dipropyl	100	100	99	100	86	-	do.
20755	Diisopropyl	100	100	80	-	-	_	Dec. 28, 195
20756	Dibutyl	100	100	90	_	-	-	do.
			Dialkyl	2-chlorovinyl	phosphates			
20778	Dimethyl	100	100	62		-	-	Feb. 2, 1955
22373	Diethyl (Shell OS 1836)	100	98	94	88	64	-	Oct. 1, 1953
20779	Dipropyl	100	100	42	_	_	_	Feb. 2, 1955
20780	Diisopropyl	100	22	26	_	-	-	do.
20781	Dibutyl	100	98	64	-	-	-	do.
		Acetates of	f dialkyl 2,	2, 2-trichloro-l	-hydroxyethylpl	hosphonates		
20766	Dimethyl	100	82	54	-	-	-	Dec. 28, 1954
20745	Diethyl	100	100	52	-	_	_	Oct. 4, 1954

'All chemicals except Bayer L 13/59 and its diethyl and bis(2-ethylhexyl) analogs and Shell OS 1836 were prepared at Beltsville, Md., under the direction of S. A. Hall.

was reported by Corey et al. in 1953 (4).

Because of the growing interest in the insecticidal possibilities of Bayer L 13/59 and its derivatives (which include DDVP) together with the related phosphate Shell OS 1836, a resumé has been made of some of the experimental work at Orlando with these compounds.

The compounds were tested against mosquito larvae, body lice, house flies, bed bugs, and cat fleas over a period of several years. As the susceptibility of insect strains varies from time to time, concurrent tests, as shown by dates in the tables, represent a better comparison than tests several months apart. The first tests were made in May 1951, with the diethyl and bis(2ethylhexyl) homologs of L 13/59. Tests were begun with L 13/59 in January 1953, with OS 1836 in October 1953, and with DDVP in August 1954.

Mosquito Larvae

TWENTY-five fourth-instar larvae of Anopheles quadrimaculatus Say were exposed for 48 hours in serial dilutions of the test compounds, prepared by adding acetone solutions to water. The results of these tests are given in table 1. The diethyl homolog of DDVP was completely effective at 0.025 p.p.m., and DDVP and its dipropyl homolog at 0.05 p.p.m. Bayer L 13/59 and its diethyl homolog and Shell OS 1836 were almost completely effective at 0.1 p.p.m.

In the course of a study to select the most satisfactory water-soluble larvicides for the treatment of irrigation waters (Gahan et al. 5), various dilutions of saturated water solutions of some of the compounds were tested against larvae of Anopheles quadrimaculatus. Small quantities of the saturated water solutions were added to 250 ml. of water in glass beakers containing 25 larvae, and the mortalities were recorded after 24 hours. The effectiveness was thus influ-

Table 2. — Relative effectiveness of dilutions of saturated water solutions of Bayer L 13/59 and some other phosphorus compounds in laboratory tests with fourth-instar larvae of Anopheles quadrimaculatus. (2 replications.)

	Mil iliters of saturated solu-	Percent mor-	Date
Dialkyl radical	tion per 250 ml. of water	tality after 24 hours	test began
Dialkyl 2, 2,	2-trichloro-1-hydr	oxyethylphospho	nate
Dimethyl (Bayer L 13/5	9) 0.0025 .001 .0005	100 96 64	Feb. 24, 1954
Dialky	1 2, 2-dichlorovin	yl phosphates	
Dimethyl (DDVP)	0.0025 .001	100 86	Dec. 14, 1954
Diethyl	.01 .005 .0025	100 98 68	Jan. 4, 1955
Dipropyl	.25 .1 .05	100 94 72	do.
Diisopropyl	10 1 .5	100 98 56	Jan. 31, 1955
Dibutyl	20 10 1	100 98 2	do.
Dia	kyl 2-chlorovinyl	phosphate	
Diethyl (Shell OS 1836)	0.25 .1 .05	100 98 84	Nov. 22, 1954
Acetate of dialkyl	2, 2, 2-trichloro-1-	hydroxyethylphos	sphonate
Diethyl	10 1 0.5	100 78 46	Dec. 7, 1954

enced by the solubility as well as the toxicity of the compound. The results are given in table 2. L 13/59 and DDVP were both completely effective at dilutions of 1:100,000 (0.0025 ml. solution to 250 ml. of water), but L 13/59 was the more effective at 1:250,000 (0.001:250). The diethyl homolog of DDVP was completely effective at 1:25,000 (0.01:250), and the other compounds were much less effective.

Body Lice

TESTS as louse toxicants were conducted on woolen patches impregnated with the compounds. The patches were dipped in one percent solutions and allowed to dry. Ten young adult body lice (five of each sex) were exposed for 24 hours. Patches on which all lice

were dead or knocked down were retested at intervals until one or more lice remained unaffected. The time required for complete knockdown was recorded in the first test.

The results of these tests are presented in table 3. DDVP was effective for 10 to 14 days and gave complete knockdown in five minutes. The homologs of DDVP were about equally effective, causing complete knockdown in the shortest observation period, but the dibutyl homolog remained effective for more than 31 days. OS 1836 and three of its homologs, L 13/59, and the acetate of dimethyl 2, 2, 2-trichloro - 1 - hydroxyethylphosphonate were also effective for more than 31 days. In general, in each major chemical grouping speed of knockdown decreased with increasing

Table 3. — Residual effectiveness of cloth patches treated with Bayer L 13/59 and some other phosphorus compounds against body lice.

	Hours for	Days	
Alkyl radical 10	0% knockdown	effective	Date tested
Dialkyl 2, 2	, 2-trichloro-1-hyd	roxyethylphosi	phonates
Dimethyl (Bayer L 13/	(59) <1	31+	Mar. 4, 1953
Diethyl	3-24	24-25	July 9, 1951
Dipropyl	3-24	0-1	Nov. 2, 1953
Diisopropyl	>24	0	do.
Dibutyl	>24	0	Dec. 7, 1953
Bis(2-ethylhexyl)	>24	0	July 10, 1951
Dicyclohexyl	>24	0	Jan. 10, 1955
Diall	ryl 2, 2-dichlorovi	nyl phosphate	
Dimethyl (DDVP)	0.08	10-14	Aug. 23, 1954
Diethyl	.08	1-10	. do.
Dipropyl	<1	1-10	Oct. 11, 1954
Diisopropyl	<.5	1-7	Jan. 10, 1955
Dibutyl	<1	31+	do.
Di	alkyl 2-chloroviny	l phosphates	
Dimethyl	<.25	31+	Feb. 7, 1955
Diethyl (Shell OS 1836	s) <1	31+	Nov. 23, 1953
Dipropyl	<1	31+	Feb. 7, 1955
Diisopropyl	<1	7-10	do.
Dibutyl	3-24	31+	do.
Acetates of dialky	1 2, 2, 2-trichloro	-1-hydroxyethy	lphosphonates
Dimethyl	<1	31+	Jan. 10, 1955
Diethyl	<1	21-28	Oct. 4, 1954

weight of the dialkyl radical. The duration of effectiveness reflects volatility as well as toxicity to lice.

In tests with contact sprays against house flies, 0.25 ml. of kerosene solutions of the compounds at various concentrations were sprayed into a wind tunnel with a

draft of three m.p.h. As the spray was drawn through the tunnel, it passed through a cage containing 20 female flies. After treatment the flies were transferred to clean cages. Knockdown was recorded after 30 minutes and the mortality after 24 hours. The results are given in

table 4. DDVP, its diethyl homolog, and OS 1836 were about equally effective in knockdown and kill, and were considerably more effective than L 13/59 and its homologs.

The same compounds were also tested in the laboratory in sugar baits. The baits were prepared by dissolving the compounds in a minimum quantity of acetone, mixing with granulated sugar, and evaporating the acetone. They were exposed in petri dishes in cylindrical screen cages containing 20 female flies. The dishes were covered with screen so that the flies could feed on the bait without otherwise touching it. Mortalities were recorded after 24 hours. The results are shown in table 5. Complete mortality was obtained with DDVP at 0.01 percent, with the diethyl homolog of DDVP and L 13/59 at 0.1 percent, and with the dipropyl homolog of DDVP, the diethyl homolog of L 13/59, and OS 1836 at one percent.

Four of the compounds were tested in baits in heavily infested, unscreened dairy barns. In these tests 100 grams of granulated sugar containing one percent of the insecticide were sprinkled on the floor of each barn (2000-4000 square feet) from a mason jar with perforated cover. An estimate of the fly population before and at various intervals after treatment was

Table 4. — Effectiveness of contact sprays of Bayer L 13/59 and some other phosphorus compounds against house flies. (2 replications.)

Alkyl radical	Percent knockdown in 30 minutes at in concentration			dicated	Percent mortality in 24 hours at indicated concentration					icated	Date tested				
Alkyl radical	2%	1%	0.5%	0.25%	0.1%	0.05%	0.025%	2%	1%	0.5%	0.25%	0.1%	0.05%	0.025%	(1954)
				Dialky	1 2, 2,	2-trich	loro-l-hy	roxyeth	ylphos	phonate	18				
Dimethyl (Bayer L 13/59)	5	3	0	3	0	_		98	93	8	8	0	-	-	October 2
Diethyl	8	0	0	0	0		_	10	8	0	0	0	-	_	April 15
Dipropyl	3	0	0	0	0	_	-	5	0	5	0	0	_	_	April 14
Diisopropyl	0	0	0	0	0	-	_	3	3	3	3	5	_	_	do.
					Dialky	1 2, 2-	dichlorov	inyl ph	osphat	es					
Dimethyl (DDVP)	_	_	_	100	80	68	25	-	_	-	100	80	70	30	October 21
Diethyl	_	-		-	100	90	50	-	_	_	_	100	80	43	do.
Dipropyl		-	98	73	3	0	-	-	_	95	78	42	5	_	October 19
					Dia	lkyl 2-	chlorovin	yl pho	sphate						
Diethyl (OS 1836)	_		100	100	100	66	31		_	100	100	100	46	18	April 9

Table 5. — Results of laboratory tests against house flies with granulated sugar baits containing Bayer L 13/59 and some other phosphorus compounds.

Alkyl radical	Percent n	Date tested			
may radicus	0.01%	0.01% 0.1% 1.0%		(1954)	
Dialkyl 2, 2,	2-trichloro-	1-hydroxyet	hylphospho	nates	
Dimethyl (Bayer L 13/59) 53	100	100	October 13	
Diethyl	15	80	100	do.	
Dipropyl	5	5	38	May 9	
Diisopropyl	0	0	3	do.	
Dialk	yl 2, 2-dich	lorovinyl pl	nosphates		
Dimethyl (DDVP)	100	100	100	October 13	
Diethyl	93	100	100	do.	
Dipropyl	20	95	100	do.	
Di	alkyl 2-chlo	rovinyl pho	sphate		
Diethyl (Shell OS 1836)	48	93	100	February 11	

obtained by counting the flies feeding on cloth strips (one inch by 24 inches) saturated with a maltwater solution. The results are given in table 6. DDVP and its homologs gave greater reductions than L 13/59 in the first 10 minutes, but all the compounds gave equal control after four hours.

L 13/59 and DDVP were tested in the laboratory as residual treatments against house flies. Acetone solutions were sprayed on varnished or unvarnished plywood at dosages ranging from 25 to 100 mg. per square foot. Twenty fe-

male flies were exposed for 10 to 120 minutes on the treated surfaces after various intervals of aging, and the mortalities recorded after 24 hours. The results are presented in table 7. DDVP was superior to L 13/59, causing complete mortality of flies after 28 days of aging. There was no consistent difference in the toxicity and durability of the residues on varnished and unvarnished plywood.

DDVP proved less effective in field tests. Two unscreened dairy barns were treated with single applications at 100 mg. per square foot. In one barn, treated with an emulsion, where an average count of 68 flies per strip was obtained before treatment, the reduction of flies was 100 percent after one day and 99 percent after four days. In the second barn, treated with a suspension, where an average count of 50 flies per strip was obtained before treatment, the reduction was only 78 percent after one day and 88 percent after three days. Neither treatment showed any reduction after a week.

Cat Fleas and Bed Bugs

TESTS were conducted to eval-L trate the effectiveness against cat fleas and bed bugs of residues of Bayer L 13/59, DDVP, Shell OS 1836, and the acetate of diethyl 2, 2, 2-trichloro-1-hydroxyethylphosphonate. Acetone solutions were applied to plywood panels at 200 mg. of the insecticide per square foot. Twenty fleas or 10 adult bed bugs were exposed on the treated panels under petri dishes for two hours after the panels had aged for one day and for one month, and the mortalities were recorded after 24 hours. The results are given in table 8. All the compounds were completely effective after one day, but after a month of aging residues of L 13/59 were more effective against both insects than those of OS 1836, and slightly more effective than those of DDVP and the acetate of diethyl 2, 2, 2-trichloro-1-hydroxyethylphosphonate.

Summary

SEVERAL chlorinated hydroxyethylphosphonates including Bayer L 13/59 and vinyl phosphates, including DDVP and Shell OS 1836, were tested against various insects.

Against *Anopheles* larvae the diethyl homolog of DDVP was effective at 0.025 p.p.m., DDVP at 0.05 p.p.m., and Bayer L 13/59 and Shell OS 1836 at 0.1 p.p.m. Saturated water solutions of L 13/59 and DDVP were effective at dilutions of 1:250,000 and 1:100,000, respectively.

Against body lice DDVP (Turn to Page 203)

Table 6. — Effectiveness of granulated sugar baits containing Bayer L 13/59 and some other phosphorus compounds for the control of house flies in unscreened dairy barns. Unless otherwise indicated, all tests in September 1954.

	Number	Average pretreat-		Perc	ent reduction after—		
Alkyl radical	Alkyl radical replica- ment 10 tions count minutes			4 hours	24 hours		
Dialkyl 2,2,2	l-trichloro	-1-hydrox	yeth	ylphospl	nonate		
Dimethyl (Bayer L 13/59)	5 ¹	212		_	97	97	
	5	99		78	96	88	
Dialky	1 2.2-dich	lorovinyl	pho	sphates			
Dimethyl (DDVP)	4	151		94	97	90	
Diethyl, sublot A	3	155		87	95	73	
sublot B	4	118		93	99	98	
Dipropyl	3	176	*	96	99	97	



Modern store front of Class Janitor Supply Co., Allentown, Pa., provides excellent display windows for sanitary supplies.

Jobber Boosts Unit Sales...

TEP up the quantities of sanitary supplies and maintenance equipment that your customers ordinarily purchase and you enjoy greater profits, increased volume and still have more time to solicit additional business. This is the principle of operation followed by Willard L. Class, owner of Class Janitor Supply Co., Allentown, Pa.

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"The success of our operation is based upon keeping all of our regular customers and adding new ones all the time," Mr. Class explains. "By increasing unit sales to our regular customers the intervals between sales calls can be lengthened, thus allowing more time to call on new prospects. Because the customer has ample stocks of maintenance and cleaning requirements on hand, the possibility of competition selling him is reduced. All this explains why we have embarked on a campaign to sell larger unit quantities to individual buyers."

Pressure is never exerted on customers to persuade them to en-

finds they build volume, reduce frequency of calls on regular customers, and allow salesmen more time to call on prospects

By Phil Lance

Willard L. Class, owner of the firm, checking his stocks of merchandise. Firm keeps perpetual inventory of stock on five by eight inch cards.





Private label merchandise, such as that shown on displays above, gives him protection against competition, Mr. Class feels.



Peg board displays in the Class showroom provide neat appearance and are effective in highlighting the variety of supplies handled.

large their purchases from Class. This is a point that Mr. Class stresses in instructing his salesmen in the merits of the larger unit order idea. Class tries to make his customers understand the advantages of the larger single unit order, but rather than risk customer goodwill, Class would prefer to sell smaller quantities more frequently.

"We have carefully gone over the sales records of all of our customers and noted those who would enjoy a cash saving when buying in quantity. We have also determined the savings in labor in handling one larger shipment rather than two smaller ones, as well as indicated the savings in money and labor to be derived by combining in one order the purchases of several departments," Mr. Class explained.

"We attempt to increase the size of individual orders by showing customers who buy in gallon lots the savings to be realized by ordering five gallon containers, and for those buying in multiple gallons the price of the material in drums.

"In many cases," according to Mr. Class, "particularly with small accounts, receiving incoming materials may be a problem. Personnel may have to be shifted by these firms from other duties to warehouse incoming supplies and materials. This applies not alone to sanitary supplies and maintenance equipment, but also to receiving materials processed in their own operations. By purchasing in

larger quantities and storing supplies away for use as needed, the handling incident to more frequent receiving of smaller quantities of sanitary supplies and equipment can be reduced. Being aware of the savings to be obtained through the purchase of larger units, we pass this information along to our customers and prospects for their consideration."

For his larger industrial accounts, Class has records to prove that in some cases two or more departments in the same firm or plant may be purchasing the same materials individually. In these cases Class has brought this fact to the attention of the customer's purchasing department and pointed out that by combining these purchases into a single order savings in both money and handling may be had.

"While our profit on small quantities is greater percentagewise

than it is on larger quantities," Mr. Class points out, "we feel that the extra time provided by having to call on our customers less frequently more than compensates for the difference. If a new customer can be had for every account that requires fewer sales calls, the increased sales volume provides us with a much greater gain in terms of profit."

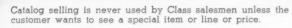
Mr. Class has a theory that he constantly strives to put into practice: it requires two new customers to make up for the loss of an established one. Thus, if in the normal course of the operation of the business an old customer switches his business to another supplier, Class will make every effort to add two new ones to its customer list.

"We are very liberal with our salesmen and let them handle their business in the manner they see fit," Mr. Class says. "However,

Mr. Class demonstrates ease with which brush can be removed from floor machine









Attractive display windows are changed frequently to attract customers passing Class Janitor Supply Co. on Hamilton St.

we do want them to exert a little more energy when they do lose a customer, and usually they respond by bringing in new accounts."

All Class salesmen have a schedule of calls they make regularly or in some cases daily. Salesmen report to the office at the end of each day to write up their orders. Orders are filled within 24 hours, unless there is a special rush, in which the salesman telephones in the order and it goes out the same day.

Paper a Side-line

A S a door opener, Class Janitor Supply Co. handles a line of paper products such as cups, napkins, toilet tissues and towels and other daily necessities. In many cases, the salesmen have been able to "break in" with a particular prospect by selling them paper, although the markup on these items is limited. Once the paper prod-

ucts have been sold, the salesman can promote sanitary supplies and maintenance equipment and eventually builds the volume of items purchased by the customer.

"Our salesmen have been instructed to appeal to the 'senses' of a customer in selling them," explains Mr. Class. "If a customer can see, feel or smell the product that you are selling, your chances of getting his undivided attention are so much better. Although our salesmen carry our merchandise caalogs, they are instructed never to open them unless the customer wants to see something special or wants a price. If a customer sees a salesman opening a volume that contains in excess of 600 items, he feels that he must spend several hours going over the book and he tries to evade the entire meeting. So the catalog is reserved for more propitious times."

As Class is constantly add-

ing new items to its line, the salesmen always have something different to show customers. Getting it into the customer's hand or giving him a demonstration, if this is practical, is termed the best means of selling. And once started, the salesman can swing into his normal sales presentation.

"Handing the customer a brush, bottle of liquid, or other item gets his attention," says Mr. Class, "and if either of these items aren't available, we give him a piece of literature. Once the customer starts questioning the item, we have his attention and we can feature the other merchandise lines that we feel he may buy."

Willard L. Class started in the jobbing business early in 1941 after working for another distributor in Philadelphia. He felt that a fertile field existed for the aggressive sanitary supply jobber and that he could put his ideas to work if given the opportunity. So he decided to make his own opportunity and started his own organization in Allentown. In asmuch as he lived in the Lehigh Valley area and covered this vicinity previously, it was a logical choice for his operation.

The next three years he served in the armed forces and upon his discharge in 1945, he re-entered the business. He operated his business from a small warehouse location for two years before business expansion required him to relocate. At present, his firm occupies a combination

(Turn to Page 162)

Class truck for making small, local deliveries.



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A complete multi-purpose synthetic detergent whose active ingredient is mainly sodium alkyl sulfate blended with carefully selected builders to give maximum detergent and sudsing performance. Ideal for use as a bubble bath, car washes, metal cleaners, floor cleaners, dairy cleaners, rug and upholstery shampoos, and general maintenance cleaners. complete multi-purpose syn-



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A neutral synthetic detergent and wetting agent whose active in-gredient is mainly sodium alkyl sulfate. Orvus WA has excellent sudsing, wetting, emulsifying, dispersing and penetrating properties which are well suited for paste and liquid shampoos, bubble baths, liquid detergents, liquid car washes, emulsifiable solvent cleaners, liquid floor cleaners, insecticides, glass cleaners, rug and upholstery cleaners and for many other liquid cleaners.



A specially developed synthetic detergent whose active ingredient is mainly modified alkyl sulfate. Offers exceptional efficiency and stability over a wide range of operating conditions. The product's detergent, wetting, penetrat-ing, sudsing, dispersing, and emul-sifying properties make it excellent for the preparation of liquid shampoos, bubble baths, liquid detergents, liquid floor cleaners, insecticides, car washes, emulsion cleaners, and a wide variety of other liquid products.



A neutral nonionic synthetic detergent of the 100% alkylphenol ethylene oxide condensate type. A light colored liquid with a clean pleasant odor. Its superior detergent, wetting and emulsifying properties, plus its compatability with a wide variety of other products offer excellent performance in ucts, offer excellent performance in liquid detergents, sanitizer detergents, self emulsifying solvents, automatic laundry detergents, glass cleaners, insecticides, textile cleaners, dairy cleaners, and bottle washing compounds.

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Aero-Fil, Inc. 10015 West Pacific Ave. Franklin Park, III.

Aeropak, Inc. 3001 West 47th St. Chicago 32, III.

Aerosol Corporation of the South 203 Scott St. Memphis, Tenn.

Aerosol Methods Johnson Road Norristown, Pa.

Aerosol Co., Inc. 525 North 11th St. Neodesha, Kansas

A-M-R Chemical Co., Inc. 985 East 35th St. Brooklyn, N. Y.

Armstrong Laboratories 421 La Grange St. Boston 32, Mass.

Associated Brands Inc. 35 Claver Place Brooklyn 16, N. Y.

G. Barr & Co. 3601 South Racine Ave. Chicago, III.

Bridgeport Brass Co.
East Main St. & Crescent Ave.
Bridgeport, Conn.

Cardel Enterprises Bethridge Road—Rexdale Toronto, Ontario Chase Products Co. 20th & Gardner Road Broadview, III.

Chemi-Form Corp. 3707 West Harrison St. Chicago 24, III.

Cleveland Aerosol Packaging Corp. 425 Lakeside Ave., N.W. Cleveland 13, Ohio

Connecticut Chemical Research Corp. 706 Bostwick Ave. Bridgeport, Conn.

Connecticut Chemicals (Canada) Ltd. Curity Ave. and Hollinger Road Toronto, Ontario

Continental Filling Corp. 123 North Hazel St. Danville, Ill.

Edgerton & Riley, Inc. Muirkirk, Md.

Eveready Pressurized Products, Inc. 1022 Belt Line St. Cleveland, Ohio

Fluid Chemicals Co., Inc. 878 Mt. Prospect Ave. Newark, N. J.

Robert J. Kerr Chemicals, Inc. 9 South Fairview Ave. Park Ridge, III.

LaMaur Products, Inc. 520 Plymouth Bldg. Minneapolis, Minn. Lawson Chemical Products Co. 5634 Selmaraine Drive Culver City, Calif.

Lenk Manufacturing Co. 30 Cummington St. Boston, Mass.

McGuire & Co. 833 47th Ave. Oakland, Calif.

National Aerosol Packaging Corp. 330 S. Wells Ave. Chicago, III.

National Spray Can Filling Corp. 1238 East 14th St. Brooklyn, N. Y.

New Jersey Aerosol Packaging Co. 108 Ashland Ave. West Orange, N. J.

Pactra Chemical Co., Inc. 1213 N. Highland Los Angeles 38, Calif.

Par Industries, Inc. 2193 East 14th St. Los Angeles, Calif.

Plaze, Inc. 9401 Watson Industrial Park St. Louis, Mo.

Powr-Matic, Inc. Stroudsburg, Pa.

Powr-Pak, Inc. 643 North Ave. Bridgeport, Conn.

Products Manufacturing Corp. 135 Stevens Ave. Little Falls, N. J.

Puritan Distributing Co. 160 Washington St., North Boston 14, Mass. Regal Chemical Corp. 115 Dobbin St. Brooklyn 22, N. Y.

Gene Rose Co., Inc. 1637 South Kilbourne Ave. Chicago, III.

Schaefer Paint Company 334 West Marion St. Lancaster, Penn.

Sprayon Products Co. 2075 East 65th St. Cleveland, Ohio

Stalfort Pressure-Pak, Inc. 319 West Pratt St. Baltimore, Md.

John Struthers & Co., Ltd. 3081 Ontario St., East Montreal, Quebec

Sun-Lac, Inc. 274 Lafayette St. Newark, N. J.

Transco Co. 728 Chronicle Bldg. Houston 2, Texas

Whitmire Research Laboratories, Inc. 339 So. Vandeventer St. St. Louis. Mo.

Western Filling Corp. 4151 Bandini Blvd. Los Angeles. Calif.

Zenith Drug Co. 1 Vesey St. Newark, N. J.

Zonite Products Corp. 500 Jersey Ave. New Brunswick, N. J.

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GENETRON 11-Trichloromonofluoromethane

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GENETRON 101-Monochlorodifluoroethane

GENETRON 320/101 MIXES

GENETRON 226-Trichlorotrifluoroethane

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warehouse and display area providing better than 4000 square feet. He has outgrown this area now and plans a large single story warehouse and showroom location for the future.

Direct Mail

DIRECT mail is Class' chief means of advertising. Over 3,000 pieces are mailed monthly to all accounts. An assortment of material is used to stimulate quantity purchases, seasonal needs and new merchandise. This material is either prepared by Class or its manufacturing suppliers. Class has found that he enjoys satisfactory returns from manufacturer's material and would enjoy having more suppliers develop this material for customer distribution.

"As we are located on Hamilton Street, the main thoroughfare in Allentown, we take advantage of the four large display windows in which we feature special merchandise," says Mr. Class. "These displays are changed regularly and are devoted to an assortment of merchandise and equipment, such as galvanized ware, floor machines, detergents and related products. While we do not solicit walk-in traffic, we have been getting our share of businessmen and buyers who came in under impulse and continue as regu-. lar customers."

Class has a well planned showroom displaying a large majority of the 600 or more items that the firm handles. Pegboard displays feature a wide assortment of brooms, mops, brushes and related products that lend themselves to effective display. Other products are displayed on shelves and counter tops within easy customer reach. A customer who may come in for one item sees all the others and may wind up placing a sizeable order that is delivered by truck.

The majority of products sold by Class are private label. It has been Mr. Class' experience that if the customer has confidence in the jobber, he will buy whatever the jobber recommends. Mr. Class feels that private label merchandise pro-

tects him against competitors.

Sanitation Programs

WHENEVER possible, this jobber likes to plan a sanitation program for his customers. He feels that this helps the customer make better use of his material and labor, which is a very important factor. In addition it helps establish a closer relationship between his firm and the customer.

Recently, he set up a sanitation program in the bottling division of a local dairy that reduced the working force from 12 to three, and also cut the number of hours spent in maintenance duties. In accomplishing this program, the dairy purchased three large floor machines and three wet pick-up vacuum cleaners in addition to their regular supplies. The dairy management was so pleased with this maintenance schedule, that it requested a similar program to be inaugurated in other departments of the dairy.

"When we lay out this program for a customer, we show them where they benefit in labor savings, material and better maintenance at all times," explains Mr. Class. "Labor is the most important cost factor in maintenance and customers are always pleased to know about possible savings here. By comparing savings in wages for labor and time against the cost of labor saving devices such as floor machines or vacuums, it becomes easier to make sales of such equipment."

The sale of floor machines and vacuums is promoted only to customers regarded as being logical prospects. Customers will not purchase this equipment just because it is featured. They must have a genuine need for it and determining who are logical prospects is a job undertaken by Mr. Class himself.

"I can pretty well tell from the volume of supplies that a customer buys or by the amount of floor space he occupies if he is a logical floor machine prospect," says Mr. Class. "Then either the salesmen, myself or both will call that prospect for an appointment with the express purpose of showing him the advantages of a floor machine for his maintenance program, stressing its labor saving qualities. When such an appointment is made, we have a receptive audience and a clear way to a sale."

Perpetual Inventory

CLASS maintains a perpetual inventory system of his stock on five by eight inch file cards. All cards are departmentalized according to merchandise classification. A separate card is maintained for every individual item and brand. Outgoing and incoming supplies are entered promptly so that a complete inventory picture is available to Class at a moment's notice.

Supplies and merchandise in the warehouse are similarly stocked so that a physical count can be taken at any time to compare with the perpetual record. These cards are scanned weekly and if certain supplies are dropping to a minimum figure, re-orders are placed promptly.

Practically all of this jobber's business is with institutional and industrial accounts located in the Lehigh Valley region. 98 percent of this business is on open account, payable in 30 days.

"We have been able to do a greater business volume with more customers without increasing our sales overhead because of our larger quantity sales campaign," says Mr. Class. "And as far as we can figure, we can keep doing the same thing until our business increases to a point where more salesmen will have to be added. But when we do that, we can keep on with the same program that will result in more business per sales effort as we go along."

Prior Heads Appeal

H. B. Prior, president of Prior Chemical Corp., New York, has accepted the chairmanship of the chemicals division in the \$400,000 golden jubilee fund-raising campaign of the Travelers Aid Society of New York. The appointment was announced last month.

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Resins In Floor Waxes

T is a common experience with manufacturers of chemical specialties that substitutes used in times of emergency very often remain on the raw material list because of specific properties or economic advantages. This is especially true of no rubbing floor wax water dispersions whose basic ingredient, carnauba wax, has been replaced by a great many natural and synthetic materials.

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Rosins or resins are used to some extent to replace shellac or are being used as extender of waxes. For the manufacturer of no rubbing wax who has to meet certain requirements at a specific price it is important to know the properties of resinous products offered to the trade.

In this article the author will review most of the rosins and resins available, their chemical and physical properties as well as their advantages and limitations for use in no rubbing waxes. Since new products are developed almost daily in

By Alfred A. Kroner

Kroner Laboratories, Inc. New York

the plastics field, the number of materials discussed cannot be regarded as complete.

Wax Replacements

RESINS as wax extenders play an important role in the preparation of the basic wax/water dispersion. They contribute to gloss, antislip, facilitate the dispersion process and lower the price of the finished product. Resins impart a certain tack hereby limiting the amount of carnauba wax which can be replaced.

Ester gum, the glycol ester of rosin, is one of the cheapest and most easily applied wax extenders. "Lewisol 28," a maleic alkyd modified rosin ester, with its high melting point of 143°C produces a hard and glossy film.

Durez and Shanco resins, phenolic thermoplastics, have be-

come very popular wax extenders and levelling agents in no rubbing waxes. In some plants where steam jacketed kettles permit heating only up to 250°F it is difficult to melt these phenolic resins with a melting point range between 130-145°C. Two solutions have been found to overcome this difficulty. Since oleic acid is mostly used in the preparation of wax in water dispersions, Durez and Shanco phenolic resins are offered with a content of about 20% oleic acid. This reduces the melting point about 50%, making the incorporation of the resin into the batch in steam jacketed kettles very easy.

Another approach is to melt the waxes with the resins in a separate kettle where the temperature can be raised sufficiently and to transfer the molten wax-resin combination into the wax-water dispersion kettle or to prepare a standard mixture in larger quantities. Combinations of carnauba wax, candellila or oxidized microcrystalline wax

Table I. Wa	x Extenders
-------------	-------------

Resin	Туре	Soft.P.°C	Acid No.	Spec. grav.	Color Rosin Scale	Manufacturer
Durez 219	phenolic thermoplastic	133-5	65-5	1.09	N-I	Durez Plastics
Durez 13560	Durez 219— 20% oleic acid	63-3	84-2	1.06	S-E	st. W
Durez 14140	Durez 225— 20% oleic acid	58-60	85-95	1.055	G-F	XX XX
Estergun 8L	glycerolester of rosin	91	7	1.095	W.G.	Hercules Powder
Lewisol 28	maleic alkyd mod. rosin ester	143	37	1.138	M	33 49
Shanco 300	phenolic thermoplastic	149-152	55-65	_	_	Shanco Plastics
Shanco 320R	phenolic thermoplastic	170-173	50-60	-	-	51 15
Shanco 390	80% Shanco 300 20% oleic acid	76-79	89-91			** **
Shanco 380R	80% Shanco 320R 20% oleic acid	91-94	78-81			** **





...about detergents

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MLRETARDANT ACTION of "Ludox" is strikingly demonstrated piece of wallboard which has just been brushed with carbon black. wisble message painted on with "Ludox" solution is revealed and dit clings only to untreated areas.

eseret: "Ludox" itself is very finely divided silica—several limicrons smaller than the tiniest grains of dirt. Applied to a clean face, "Ludox" fills the microscopic pits and crevices where dirt mally collects and literally robs it of a home.

Du Pont announces new uses for

SOIL-RESISTING LUDOX

COLLOIDAL SILICA

Research discloses new market opportunities for products based on "Ludox" to retard soiling of rugs, carpets, upholstery materials, paper, wallboard, painted surfaces.

Du Pont research gives the answer to the age-old problem of dirt and soiling. It's "Ludox" colloidal silica.

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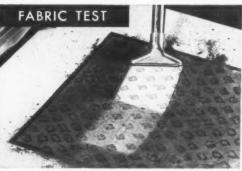
What does this mean in terms of new business opportunities for you? Already, products containing "Ludox" are appearing on the market for textile floor coverings, upholstery, drapes, Venetian blinds, lamp shades. Some preparations combine cleaning and anti-soil treatments in one operation.

What next? Some possible antisoil uses of "Ludox" uncovered by research are shown on this page.

ow can you use this chemical that retards soiling on so many surfaces?



KKERSOARD EFFECT on rug shows where "Ludox" spplied in alternate squares. Dirt remains on unted areas after wear and normal vacuuming. and sections keep their original fresh look.



FABRICS RESIST DIRT when treated with "Ludox." Carpet sweepings rubbed into upholstery fabric are easily removed from treated half, but even vacuuming cannot remove same dirt from untreated area.



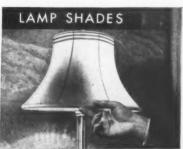
PAPER PRODUCTS benefit, too. Dirt brushed on wallpaper clings to untreated area when wiped with cloth. Treated section remains clean, colors as bright as new.



lamate slats shine; they're treated . . .



Half this shade had benefit of "Ludox"...



Entire lamp shade could have remained clean . . .



Dirt can't cling to X painted with "Ludex."

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ODAY manufacturers of soaps, toilet goods and sanitary products are becoming more and more dependent upon complex aromatic compounds for their finished effects. When re-ordered, the duplication of these compounds demands absolute fidelity to the original if the manufacturer's product is to maintain that consistency of fragrance so essential to an established product's continuing success. Obviously, this calls for the use of basic materials of highest purity and uniformity both in the development of the original compound and in all subsequent re-orders. That is why we place such importance upon rigid and effective control of our basic materials through our Control Laboratory's examination and analysis of every lot of material we employ. The Optical Rotation Test pictured above is but one of the many procedures we apply in the examination and evaluation of all materials used in our compounding. Only by this and other scientific procedures can we maintain the reputation for matchless uniformity of product which we now enjoy.



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SUPPLIERS of AROMATIC CHEMICALS, BASIC PERFUME and FLAVOR RAW MATERIALS with up to 50% of phenolic resin have been offered under trade names to the floor wax manufacturer for many years.

Table No. 1 shows the physical and chemical properties of wax extenders.

In this connection one of the newest wax extenders should be mentioned. Although it is debatable, whether this product, on account of its wax resembling properties, should be classified as a wax or a resin. "Emulsifiable A-C" polyethylene made by Semet-Solvay Petrochemical Division of Allied Chemical & Dye Corp. is a partially oxidized polyethylene with a molecular weight of about 2000, and is offered in three grades. (1)

The following basic formula is recommended for the preparation of a water dispersion.

A-C Polyethylene (629,630,	,631) 40	part
Oleic acid	8	33
Morpholine	8	3.5
Water	160	55
Total	216	parts

Emulsifiable polyethylene imparts high gloss and rubberlike antislip properties. A similar polyethylene is offered to the trade under the name of "Epolene E" by Eastman Chemical Products.

Alkali Soluble Resins

S HELLAC formerly used as a levelling agent in no rubbing waxes by the addition of 10-20% of shellac solution to the wax dispersion has gained momentum with the appearance of floor waxes containing three to four parts of shellac to one part of wax. (2) This fact makes it more interesting for the resin industry to supply large quantities of shellac substitutes. The stimulus for the floor wax manufacturer is not only to replace shellac with a more economical material but to find a product offering properties superior to shellac.

The advantage of bleached shellac in floor wax dispersions are its hard and non-tacky gloss, good levelling properties and stability.

A-C Polyethylene	629	630	631
Melting point °F	205-208	205-208	205-208
Penetration	2-4	1.5-2.5	1.5-2.5
Viscosity	40-50	100-110	80-90
Color	off white	ivory	slight green
Spec. gravity	.93	.93	.93
Acid number	14-17	15-18	16-19
Saponification value	14-17	15-18	16-19

Undesirable are its brittleness and poor water resistance. These short-comings are more evident in formulas with high shellac content. Brittleness of shellac can be overcome by the addition of plasticizers. But since these plasticizers, like glycerine, glycols or castile soap are water soluble, they lower the water resistance of the shellac film.

Copals

Manila gum is a natural resin which offers properties similar to shellac. It produces high gloss and it has better water resistance than a shellac film, but not the smooth, satin-like surface of shellac. It always contains some impurities which have to be removed by filtering. Manila gum cannot be brought into dispersion as easily as shellac.

Modified congo copals were used during the war. This resin, dispersed in a morpholine-water solution produces very glossy films. Its dark color has limited its use in floor wax dispersions where light colors are preferred.

"Alkydol 160," a tough, hard maleic resin, soluble in alcohol and ammonia solution is being used as a shellac substitute.

"Amberol 750" is similar to "Alkydol 160." In comparison with shellac it has better color, faster setting time, greater hardness and a higher melting point but is inferior in toughness, flexibility and water resistance. The "Amberol" ammonia solution withstands at least three freezing cycles.

"Durez 15467" is an ammonia solution of amber colored "Durez 15467" which forms a film having better water resistance than

shellac. However, it should not be regarded as a complete shellac substitute. Generally about 20% of the resin in the total solids content produces a good lay down and hardness of the film, but if softener waxes such as oxidized microcrystalline waxes are used this percentage might have to be increased.

"Dures 15546." This polyester resin can be dispersed in hot water (190°F) containing at least 18% ammonia 26° Be on the weight of the resin. It produces a high gloss and a good water resistance and is compatible with "Ubatol" dispersions which are discussed later in this article.

"Shanco L 1032" is an amber resin that requires about 10% ammonia 26° Be on the weight of the resin to go into solution. It forms a hard, non-brittle, glossy film with good water resistance and withstands at least three freezing cycles. Combinations with "Ubatol" dispersions produce brilliant films but its compatibility with shellac is limited.

"Shanco L 1090." Solutions of this pale resin are compatible with shellac solutions. Wax dispersions made with "Shanco L 1090" solutions have stood up well in oven stability tests. "Shanco L 1090" needs about 20% ammonia to be dissolved completely in water without prolonged cooking. It develops a glossy, water resistant film but is slightly brittle.

"Shanco L 1001" resin has the highest softening point of the three Shanco alkali soluble resins discussed. About 24% ammonia on the weight of the resin is necessary to obtain a complete solution which produces a glossy film with good levelling properties. Accord-

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ing to the manufacturer (3) "Shanco L 1001" solutions show good heat stability in mixtures of 20% resin, 80% wax dispersions. If the proportion between resin and wax is 50:50, heat stability is decreased. But a mixture of 80% resin and 20% wax possesses the same heat stability as the original proportion of 80% wax, 20% resin dispersions. Increased amounts of "Shanco L 1001" solutions in the floor wax dispersion reduce the water resistance of the resulting film.

"Teglac 128," a dibasic acid modified resin is recommended as a shellac substitute for floor wax dispersions.

Table III permits a comparison of physical and chemical specifications of the alkali soluble resins discussed in this article.

The following list shows how many pounds of liquid ammonia 26°Be on 100 pounds resin are required to produce a clear solution.

Resin	%	Ammonia 26° Be
Shellac bleached		10-12
Manila Loba		30-33
Alkydol 160		12-15
Amberol 750		13-15
Durez 15467		18 min.
" 15546		16
Shanco L 1032		14
" L 1090		20
" L 1001		24

The exact amount of alkali and ammonia necessary to dissolve these resins has to be determined individually. Approximate figures are as follows. If amino-methylpropanol is used the same amount as ammonia might be sufficient. With morpholine, about 11/2 of ammonia is needed. Borax will have to be added in a ratio of 11/2 to 13/4 of ammonia. The amount of alkali used is affected by evaporation caused by high speed agitation or prolonged heating. The finer the resin is ground the quicker it dissolves.

Non-alkali soluble resin dispersion. A non-alkali soluble synthetic resin which can replace up to 60% of the solids used in no rubbing waxes is a product made from polystyrene. "Ubatol U 2001" is a modified polystyrene emulsion with about 36% total solids, having a particle size of less than 0.03 micron. It is this fine particle size which gives the product characteristics similar to a wax dispersion. The difference between emulsion and dispersion in regard to floor waxes has been discussed by the author previously. (4) "Ubatol U 2001" produces a water resistant film and contributes to a good gloss. It is compatible with carnauba wax, oxidized microcrystalline

waxes, shellac, manila gum and some synthetic resins. This polystyrene dispersion has freeze-thaw stability and oven stability when a pH 8.5-9.0 is maintained.

Composition

FORMULATION of no rubbing waxes containing large amounts of resins depends on specifications. The most important requirements are a hard, glossy, non-brittle water and spot resistant film with good antislip properties. The film used to protect linoleum, asphalt or rubber tiles should be long lasting, not pick up too much soil and be easily removable with a wax stripper. The dispersion itself should not discolor, should have good storage stability and in regions where winters are very cold, be stable against freezing. It has been recognized some time ago, and the same is true for modern floor dispersions, that it is nearly impossible to formulate a no rubbing wax which possesses all of the properties mentioned earlier, (5)

Generally speaking resins impart good gloss, a hard surface and antislip properties. Water and spot resistance can be obtained only by the selection of suitable resins and proper emulsifiers. The surest bet is the quick evaporating ammonia 26° Be, but some people ob-

(Turn to Page 187)

sins

	Resin	Soft, P. °C.		Acid Sap.	Spec.			
Name	Туре	Cap.	R x. B.	No.	Value	Grav.	Color	Manufacturer
Congo Copal	Natural: modified natural resin	75-104		92-115	119-133	1.05-1.07	Dark Brown	Strook & Wittenberg
Manila Loba	natural resin	73-103		110-150	140-190	1.00-1.08	Light	
Shellac, bleached	Insect origin	75-85		70-90	220-260	1.11-1.15	Light	
Alkydol 160	Synthetic: Maleic Resin		135/145	105-115		1.20	WGN Light	Alkydol Laboratories
Amberol 750	Maleic Rosin	135-155	155-175	105-115		1.20	K-N Light	Rohm & Haas Co.
Durez 15467	Polyester Resin	95-105		150-160	200-225		I	Durez Plastics
" 15546	Polyester Resin	150-155		130-137	200-225	1.17	M-H	** **
Shanco L 1032	•		103-106	100-105		1.179	Gardner 9	Shanco Plastics
" L 1090			132-135	100-115		1.154	" 10	15 95
" L 1001			150	122		1.187	" 11	15 55
Teglac 128	Dibasic Acid Mod.	145-155		260-290		1.13		American
	Rosin Resin							Cyanamid

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Specific Gravity @ 25/25°C.	0.963	0.9275	0.899	1.018	0.9855	0.952			
Boiling Range 5-95% @760m.m.Hg °C °F	123-126 254-258	133-136 271-277	166-173 330-343	189-195 372-383	197-203 387-397	225-233 437-450			
Viscosity CPS @ 25°C	1.532	1.838	2.83	3.467	3.780	4.92			
Flash Point °F (COC)	125	110	160	210	205	225			
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NSSA Eastern Meeting

HE development of atomic energy and its increasing use by industry will provide the sanitary supply industry with its biggest potential market the sixth annual eastern regional meeting of the National Sanitary Supply Association was told by Jack D. Hirsch, president of Formula Floor Products, Inc., Newark, N. J. sanitary supply distributing firm.

Mr. Hirsch's address, the highlight of the one-day meeting, held at the Penn Sherwood Hotel, Philadelphia, Oct. 12, was part of a panel discussion on market research. He pointed out that atomic energy will bring a bonanza to the commercial housekeeping industry because it creates a new kind of soil which is controlled by detergents, mops, pails, floor scrubbing machines and wet vacuum pick-up machines.

"The most sensational scientific development of all times is kept under control by cleanliness," Mr. Hirsch declared. "For the first time in history, high ranking scientists and janitors are working side by side," he said. "Scientists are the hottest people in atomic energy plants, but the janitor is the most important person there," he stated.

"The dangers, yes, the death rate by radioactivity, are controlled

with soap and water. We are face to face with a new kind of invisible soil, a death dealing soil that only listens to and is only controlled by the products and the skills of our sanitation industry. To me, the discovery and development of atomic energy is only comparable to the discovery and development of electricity. The prime importance of electricity to the sanitation industry is the ability to operate an electric motor by merely plugging it into an outlet. You can't scrub a 'hot' wire and make it clean but you can scrub a 'hot' floor and wash up radioactive soil just as you can clean up common dirt. But we must rush to meet this completely new need for the products and skills of our industry. We must study atomic reactor cleaning problems hand in hand with the scientists."

Mr. Hirsch, who has visited and studied atomic energy plants in the U. S., including the Brookhaven National Laboratory, pointed out that the new measure of cleanliness will be the Geiger Counter. There will be no more guess work estimates of cleanliness or cleaning tools and materials.

The one-day regional meeting of the National Sanitary Supply Association in Philadelphia had the largest registration of any reg-

ional meeting held in the east. Over 200 persons registered. The meeting, which got underway the evening of Oct. 11 with a hospitality party and reception, was formally opened the morning of Oct. 12 by Burton L. Feinson of American Dispenser Co., New York, NSSA eastern regional vice-president and co-chairman of the meeting. Charles Solly of Harley Soap Co., Philadelphia was chairman and Jacob Kahn of Windsor Wax Co., Hoboken, N. J., national vice-president of the association, was also a co-chairman. Mr. Feinson introduced Rev. Louis Briner of Calvary Presbyterian Church, Wyncotte, Pa., who gave the invocation. Mr. Feinson introduced present and past officers and directors of the National Sanitary Supply Association who were present.

Lacy E. Crain, of Conco Chemical Co., Dallas, Tex., president of NSSA, was unable to attend the meeting because of illness.

In his address as national vice-president of NSSA, Jacob Kahn of Windsor Wax Co., Hoboken, N. J., thanked the "team of workers" for their efforts in arranging the meeting. He reported that regional meetings of the association held earlier in the south had brought together many persons

NSSA eastern regional meeting speakers, left to right: Dr. M. A. Shiffman, Chief of Milk and Food Sanitation, City of Philadelphia; A. J. Wood, A. J. Wood Co., Philadelphia, Frank

J. Reilly, editor, Soap & Chemical Specialties (standing), Jack Hirsch, Formula Floor Products Co., Newark, N. J., and Leo J. Kelly, NSSA executive vice-president.







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who had never before attended NSSA meetings. He also reviewed Mr. Crain's program of trying to bring a higher level of management to the industry and greater participation by members of NSSA. He said that the emphasis on trying to bring about higher standards for jobbers in their operations was making members of the association more alert to the times and was helping them to increase their sales. From the national office of the association new ideas are constantly being sent out to members which no company larger or small can afford to be without, Mr. Kahn concluded.

Panel Discussion

THE highlight of the morning session was a panel discussion of the problems of the sanitary supply jobber's salesmen and what manufacturers selling through distributors were doing to help them. Participating were four distributor salesmen and four manufacturers' salesmen. Distributor panel members were: William Loffland of T. Frank McCall's Sons, Chester, Pa.; Fred Dunlap, George T. Johnson Co., Medford, Mass.; Harold Kelly of F. W. Hoffman Co., Philadelphia, and Robert Roe of Crandall Supply Co., Binghamton, N. Y. Manufacturing salesmen participating were: Robert Byrne, Empire Brushes, Inc., Port Chester, N. Y.; J. W. Spencer, Breuer Electric Manufacturing Co., Chicago; MurGroup picture taken during banquet at sixth Eastern Regional Meeting of NSSA at the Penn Sherwood Hotel.

phy Cohen, Harley Soap Co., Philadelphia, and Marshall Ward, F. H. Lawson Co., Cincinnati.

Shim Lehrman, A. J. Lehrman & Sons, Harrisburg, Pa., was moderator for the panel, which answered questions submitted in advance and asked from the floor.

The first question, directed to manufacturers' salesmen on the panel was: "Do you have a policy of working with distributors?".

One panel member replied that his company did have a policy of working with distributors' salesmen, but that his firm hadn't done as much of this as it should. He said manufacturers' salesmen should make more calls with distributor salesmen. He also pointed out that this is particularly important with items of a technical nature.

Another panel member stated that it is the policy of his company to assist distributor salesmen. "It is the very backbone of our business to work with distributors' salesmen," he said, adding that "it is the responsibility of the manufacturer to work with each and every man to teach jobber salesmen what the company manufactures." Most sanitary supply items should be sold with other related items in the opinion of this manufacturer's salesman.

A somewhat different point of view was expressed by a third panel member who said he tried to aid jobber salesmen through sales meetings. In addition his company uses incentive plans to interest jobber salesmen in increasing the volume of sales of products made by his firm. Since it is difficult for jobbers to raise their sales volume above a certain level, concentrated sales aids are needed with profit lines

The second question, asked of jobber salesmen, was "Do you like manufacturers' salesmen to work with you in the field?"

One representative of a jobbing firm said he likes to work with manufacturers' salesmen at times. He feels it important to get information about products from manufacturers' salesmen. A great deal of product information can be gotten from sales meetings addressed by a manufacturer's salesman. Many customers called on by the distributor's salesmen resent a second man calling on them. For special situations, this panel member said he thought the manufacturer's salesman is advisable.

Another jobber salesman said that working with salesmen of manufacturers is the only way the distributor's salesman can keep up with new developments in products. He also said that sales went up when distributor salesmen worked with those of manufacturers.

Manufacturers' salesmen with technical information that would be helpful in selling "tough accounts" are welcome to work with him, an-

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other jobber panelist stated. He explained that he was interested in what the manufacturer's salesman tells jobber customers. If the salesman is not using what he considers the right approach the jobber salesman said he would discontinue making calls with the manufacturer's man. On the other hand, if the manufacturer's salesman is helpful, this distributor's salesman would keep on working with him.

The fourth jobber panelist stated that three years ago he would have said he would prefer not to work with factory men. Now, however, he feels that four out of 10 manufacturers' salesmen are top men and he feels he can learn something from them. He reported he felt his selling had improved as a result of working with good factory salesmen.

The third question, directed to distributor salesman was: "What can manufacturers and distributors do to promote a better industry?"

Holding better sales meetings was one answer. Also important is the time at which sales meetings are held. Some salesmen of distributors don't like evening meetings and suggested 7:30 a.m. as a good starting time. At this time the men's minds are fresh and rested and by starting at an early hour the sales meeting does not cut into the working day.

Another jobber's salesman said he was "quite satisfied" with

his company's plan of holding sales meetings on Monday evenings from 6:00 p.m. to 7:30 p.m. This gives salesmen the entire day in which to work, and because Monday is generally an "off-night," the men don't resent having to stay for a sales meeting. In addition, the salesmen don't have to give up any part of their Saturdays. Another advantage of the evening meeting over the early morning meeting is that the men do not have to be at the office so early.

Weekly Saturday morning meetings were formerly held by another jobber, whose salesman said the plan did not work out so well. Sales meetings are now held once a month on Friday evenings. This provides ample time to plan a program for the sales meeting, according to this jobber salesman. He said he, personally, would prefer an early morning meeting.

Another salesman stated that in his opinion conventional sales meetings are a waste of time. He felt that an occasional all-day meeting away from the office and with an informal atmosphere was most productive.

Manufacturers' salesmen were asked the next question: "What is the big fault of distributor salesmen?"

The great number and variety of items sold by the jobber prevents his salesmen from selling his entire line in the opinion of one panelist. He said he felt that his line is sometimes neglected because of this. He added that he does not think it requires a "terrific" selling job to promote his line. Sometimes just mentioning the items he sells would produce more sales this manufacturer's salesman said.

Late starts in making calls was another complaint. Stopping for coffee or even breakfast after leaving the office was partly responsible for late starts in this manufacturer's salesman's opinion. He felt that when jobber salesmen have goals they work hard at first and then taper off. He pointed out that the factory man should stimulate jobber salesmen to get more accounts.

Another panelist said he wondered why jobber salesmen don't devote more time to spreading the aims of the National Sanitary Supply Association. He felt that their customers would be impressed with what the NSSA is attempting to do for its members and the industry.

Another opinion expressed was that the average jobber salesman has to be sold on a particular product. This can be done by having a manufacturer's salesman address a jobber's sales meeting. But unless the jobber's salesman sells the customer, rather than viceversa, the sales story of the manufacturer's man is of no avail. Instead of selling the items he has readily available, too often the jobber's salesman will take an order for an item that must be made up specially.

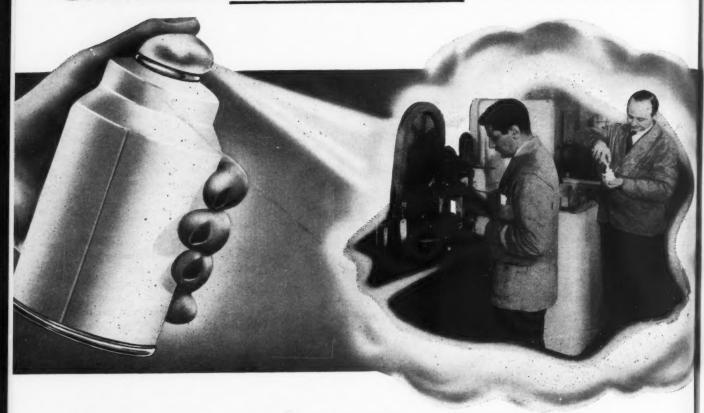
The other side of the question: "What's wrong with manufacturers' salesmen," was discussed by the jobber panelists.

One jobber salesman said there is nothing wrong with manufacturers' salesmen. In making calls jointly with a factory man it is necessary to plan the calls. Otherwise, time is wasted in the opinion of this panelist. If he is an out-of-town man he will not be familiar with the needs and requirements of the jobber's customers. It is necessary to pick spots where he will be

Table close-up at NSSA banquet, clockwise, sarting at left: Herman Kahn, Windsor Wax Co., Hoboken, N. J.; Frank Reilly and Tom Morgan, Soap & Chemical Specialties magazine; Edward and Florence Mulligan, Moran Brush Co., Hamden, Conn.; Irving Dorf and Peter Hopkins, Airkem, Inc., New York, Lillian Moran Brush Co.; Herman Schwartz, Uncle Sam Chemical Co., New York, and George Watoff, Sanitary Maintenance magazine, New York.



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Branches: Philadelphia • Boston • Cincinnati • Detroit Chicago • Seattle • Los Angeles • Toronto of most help to the jobber salesman. It is better to tell a manufacturer's salesman you can't use him than to take him out to make calls where it will do no good.

The tendency of the manufacturer's salesman to concentrate too much on a single line was the criticism of another jobber salesman. He felt, however, that the factory man can stimulate the jobber salesman and thus help him to do a better selling job. The jobber salesman can learn the principles of good selling from manufacturers' men.

Manufacturer's salesmen were then asked: "Are distributor salesmen well trained, do they know their products, do they gripe about the boss?"

The majority of jobber salesmen seem to know their complete lines one panelist said. However, many of the new salesmen coming into the sanitary supply field in recent years need to know more about the business. Most sanitary supply salesmen are convincing talkers, he said.

Another manufacturer's salesman said that he finds most jobber salesmen well trained. If not their concerns would not stay in business. He pointed out that more money is wasted on poorly trained salesmen than in any other way.

If jobber salesmen gripe about the heads of their organizations they are good men, providing the criticism is constructive, another panelist stated. In many cases, they are simply trying to give management ideas, he said.

Cooperation Stressed

THE necessity for greater cooperation between sanitary supply distributors and manufacturers was stressed in a post-luncheon address by S. E. Zubro, president of S. E. Zubro, Philadelphia marketing and advertising company. He pointed out that the manufacturer has a large responsibility in backing up the distributor with technical information about his products and their application, as well as in supplying intelligent sales aids. Jobbers, on the other hand, must make full use

of these aids and information to achieve the best sales results for (Turn to Page 195)

Optical Brighteners

(From Page 47)

was washed at 95°C., spun rayon at 50°C., each for 30 minutes with five grams of soap and two grams of soda per liter. Acetate rayon, wool, and nylon were washed at 50°C., also for 30 minutes, with five grams of soap per liter.

In order to investigate the action of agents yielding oxygen and chlorine, cotton was washed for two hours at 85°C, with an addition to the bath of 2.5 ml, of sodium silicate 71-72° Tw. (38°Bé.) and five ml, of hydrogen peroxide 39 percent per liter, and also for 30 minutes at 50°C, in the presence of five grams of soap and 0.5 gram of active chlorine per liter, using sodium hypochlorite as chlorine yielder.

The substrates were rinsed, centrifuged and dried after treatment.

b) Evaluation of the brightening effect: Although it would be desirable to express the optical brightening effect in figures with the aid of a measuring instrument, this has not been possible until now. It must be borne in mind that the brightened effect as discerned by the eye depends on several different factors, viz.:

- -relative intensity of wavelengths of incident light;
- —reflecting capacity, of the substrate (cotton, wool, spun rayon, etc.);
- —the physical properties of the optical brightener when on the substrate;
- —capacity for absorbing wavelengths of incident light;
- —relative intensity of wavelengths of re-emitted fluorescent light;
- —relative sensitivity of the eye to the various wavelengths of visible light.

The main difficulty is to find a light source which, in the visible range (400-750 m μ), and in the

ultraviolet range (300-400 mu) corresponds to the mean value of daylight. It is true that the Xenon high pressure lamps (7) have brought some improvement in this direction, but their ultraviolet portion is still too high. Various authors (8) have confined themselves to measuring the total intensity of the fluorescent light emitted, whilst others (9) have tried to determine the degree of optical brightening by filter-photometrical analysis of the fluorescent light. Neither method, however, is completely satisfactory.

For the purpose of this work the brightening effect was evaluated visually by two experienced colorists. (10) For this purpose, the substrates were stretched on glass plates measuring 9 x 12 cm and comparisons made by eve in daylight. The brightening effect is indicated by means of a scale reading from 1-100, the value 100 representing the maximum brightening effect obtainable. In this procedure the margin of error lies at about + five percent. For practical purposes a brightening effect between 30 to 60 is generally required, although effects between 40 and 50 are in greatest demand.

The shift in shade, which often occurs with increasing brightening, is indicated by an adjective such as "reddish" (r), "greenish" (v) or "bluish" (b), whilst a definite change in hue is indicated by the corresponding color, e.g. "green" (vv).

In table 1, brightening effects of various optical brighteners are represented graphically, the darkly shaded areas showing the degree of brightening of the fabrics by the exhaust method in relation to concentration applied, within the limits of 30-60, while the lightly shaded areas show the corresponding degree of brightening obtained in the washing operation.

(To be concluded)

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3.) United Press, 29th March, 1954

4.) O. Uhl, Fette und Seifen, 53, 545

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"Xenon-Hochdrucklampe XBO-162" of Osram Ltd.

8.) cf. A. Landolt, Textil-Rdsch. 3, 376 (1948) and 7, 337 (1953) Am. Dyestuff Rep. 38, 353 (1949) O. L. Sherburne and J. P. Beiswanger, Am. Dyest. Rep. 41, 144 H. E. Millson and E. D. Stearns,

Am. Dyest. Rep. 37, 423 (1948) 9.) cf. Ch. Pinte and R. Rochas, Bull. Textl. France No. 27, 25; 28, 39; 29, 9 (1951; E. C. Caspar, Melliand Textilber 33, 518 (1952)

10.) For this work I am indebted to Dr. W. Geigy and Mr. E. Weber

Bon Ami Holes Its Own

(From Page 42)

And, the hidden baffles were virtual dams that hindered the flow half again as much.

The present top-covers, therefore, feature a tight, box-like arrangement of five pre-punched holes. This arrangement not only permits controlled flow of the cleanser, but can be readily sealed with a single, narrow tab of tape.

Various tapes were initially considered for the job. The choice of the No. 256 paper tape was based in part on its relatively low cost; ability to be used on automatic application equipment; and the ease with which it could be printed.

In addition, tests conducted by Dr. Terry's group proved that (1) a 1½-inch tab of inch-wide tape was adequate to prevent any possibility of leakage from the container; (2) accelerated aging showed no signs of moisture permeating the tape's backing or affecting the adhesive bond; and (3) that the tape seals could be quickly and easily removed by the housewife despite periods of long storage or shelf display.

At the outset, however, the tape seals failed to stick to the cover's surface. This difficulty was quickly solved when it was discovered that a film of oil remained on the cover surfaces following the punching-out operation. Elimination of the oily film was achieved by controlling the amount of lubricant used to prevent excessive wear of the stamping die.

To further brand recognition, the red and vellow Bon Ami colors and the firm's "Hasn't Scratched Yet" slogan and emblem appear on the present seals. The slogan and "chick" emblem are printed in red in a continuous pattern the length of the 180-yard rolls of yellow-colored tape.

(Although no special promotions are foreseen, Bon Ami's officials realize that the printed seals can be altered to carry such pointof-purchase messages as deal announcements or special offer information.)

To facilitate use of the tape, special flat surface applicating machines have been installed at the firm's Manchester, Conn., plant. And, although located on the floor above the main packaging line, they are integral to the over-all packaging operation.

Production of the containers at Manchester begins in the stamping room, where a bank of punch presses stamp out the top and bottom covers simultaneously from individual strips of 70-pound tin plate. As they drop from the presses they are automatically sorted onto conveyor belts which carry them to their respective hampers. The "tops" are then carted to the second floor for sealing.

After being dumped into the loading bin at the left end of the taping machine, the covers are hand fed onto the machine's chain conveyor track. Pusher cleats spaced along the chain then make contact and push them along into the taping

As the cover advances it engages and depresses a taping switch which actuates the solenoid operating the taping arm. This arm immediately descends and begins applying the tape seal over the punched-out holes. At the precise instant that the pre-determined length of tape is in place, the arm moves up and a stationary cut-off knife severs

After the cutting operation, the cover passes beneath a buffing arm which presses the tape securely to the cover's surface. It then continues along the conveyor until it falls off into a discharge chute at the end of the machine.

(Each of Bon Ami's taping machines stands 30-inches high by 24-inches wide by 90-inches long. They are fully automatic, except for the cover hand-loading operation, and are currently sealing 90 covers per minute. Each 180-yard roll of tape seals about 4,300 covers.)

From this chute the covers fall into a giant hopper leading to the top-capping machine on the floor below where the rest of the packaging is done. Here the tops are hand fed onto another chain conveyor that carries them into the capper mechanism. This unit then automatically joins them into preformed, 34 point semi-bender chipboard container shells that flow in on another conveyor from the bodyforming line.

A pneumatic tube then whisks them into an inverted position on a roller conveyor leading to the filling machines. As they pass through, a measured 12 ounces of powdered cleanser is deposited into each of the open-end units. They then roll into the bottomcapping machine, which automatically joins the bottom cover to the shell and ejects the finished product onto the packing table.

The tape-sealed containers are then packed in cartons for shipment.

Credits

Tape Printing, Linear Products, Inc., 37 W. 20th Street, New York 11, N.Y. Automatic taping machines, Dellenbarger Machine Co., Inc., 379 W. Broadway, New York 12, N.Y.—taping head and mechanism based on principle and design worked out in cooperation with Minnesota Mining and Manufacturing Company's Customer Engineering Department.

Tin plate covers, Bethlehem Steel Co., Bethlehem, Pa.

Chipboard container body, Lydall & Fouls, Manchester, Conn. Label printing, Wm. W. Fitzhugh Co., New York, N.Y.



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News

Danziger in New Post

Harold L. Danziger has been appointed general sales manager of R. M. Hollingshead Corp., Camden,



Harold L. Danziger

N. J., it was announced last month. In his new post he supervises all sales activities of the firm's sales divisions as well as being in charge of the advertising and market research departments. Prior to his recent advancement Mr. Danziger was group manager in charge of the automotive, special brands, and Universal divisions. He joined Hollingshead in 1946 as district manager in the automotive division. He was later named assistant sales manager of the division. In 1950 he was appointed account manager in the special brands division and in 1952 was named manager of the special brands division.

He held that position until October, 1954, when he was named group manager in charge of the automotive, special brands and Universal divisions of the corporation.

A reduction in the price differential between clarified grade technical chlordane and agricultural grade chlordane was announced recently by Velsicol Chemical Corp., Chicago. The former price differential between the clarified and agricultural grades of 10 cents has been reduced to four cents. Increased production of the clarified grade of chlordane resulting in lower costs has made the reduction possible, according to John F. Kirk, vice-president in charge of sales for Velsicol. The clarified grade is used primarily in household small package and pest control products. Chlordane now leads in household package formulations with over 35 percent of the market, a recent survey of the Chemical Specialties Manufacturers Association shows, according to Mr. Kirk.

Kenneth R. Farr Dies

Kenneth R. Farr, 58, vicepresident of Petrolite Corp., Kilgore, Tex., and general manager and sales manager of Petrolite Co. division, died Oct. 3.

Sanitarians Name Kelly

Bernard T. Kelly, executive secretary of the National Sanitary Supply Association was appointed last month to serve as general chairman of the National Association of Sanitarians' 20th annual Educational Conference and Sanitation Products Exposition to be held at the Morrison Hotel in Chicago, July 23-26, 1956.

Mr. Kelly was recently reelected to serve a second term as president of the Chicago section of the Illinois Association of Sanitar-

Bernard T. Kelly



ians. He is a director of the Illinois Association of Sanitarians and a member of the National Sanitation Week Committee.

Nat'l Labs Names Three

National Laboratories, Inc., Toledo, has added three men to its staff, it was announced in October



L. C. Van Nest

by L. C. Van Nest, president. James Baldwin, former director of Lutheran education at Miami University, Oxford, O., has joined National as director of field personnel. He will be responsible for employment, training and direction of the firm's field force. National currently employs over 80 representatives which it expects to increase to 100 in the near future.

William Spengler has been appointed to the distributor relations department to carry out a new program with the company's 350 distributive outlets. He was formerly an engineer with Surface Combustion Co.

Robert Johnson, previously associated with Owens-Illinois Fiberglass Co. of Kansas, as a project engineer, has been added to National's laboratory research staff.

Office space has been enlarged by 1,000 square feet and over \$50,000 has been spent on the design and development of new manufacturing equipment, Mr. Van Nest said. All raw materials used in the firm's manufacturing operations can now be purchased in rail tank car quantities.



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CSMA Floor Prods. Survey

The first annual survey of waxes and floor finishes for industrial and commercial building maintenance use was published last month by the Chemical Specialties Manufacturers' Association. The figures cover only items produced for industrial and institutional use, including sales to government agencies, but do not include retail type packages for household use. Sixtythree companies, representing an estimated 70 percent of U.S. producers participated in the survey conducted for CSMA by Ernst & Ernst, New York accountant firm.

Sweeping compounds account for the largest volume of all products surveyed. Approximately 73,411,515 pounds were produced in 1954, an increase of seven percent over the preceding year. Heaviest gains over 1953 were shown by paste wax emulsions, which were up 56.8 percent, although with 1954 production at 363,803 pounds, it is one of the smaller items on the list.

Nearly all types of industrial-commercial waxes and floor finishes showed increases over 1953, with gains ranging from four to 56.8 percent. Production of alcohol-base floor resin finishes declined from 100,316 gallons to 91,609 gallons; floor sealers and gym finishes down 7.5 percent from 1,681,987 gallons to 1,555,435 gallons; and solvent type liquid waxes down one percent from 444,002 gallons to 439,510 gallons.

25th Chemical Show

More than 500 exhibitors will show their products at the 25th Exposition of Chemical Industries to be held at the Commercial Museum and Convention Hall in Philadelphia, Dec. 5-9. Chemical materials, materials used in constructing equipment and in chemical processing, a wide range of manufacturing and handling equipment, and instruments and control systems including many innovations in automation, will be demonstrated.

Fairfield Sales Moved

Sales headquarters of Fairfield Chemical Division have been transferred from New York to Baltimore, effective Oct. 15, it was announced recently by Food Machinery and Chemical Corp., New York. Communications to John A. Rodda, Fairfield manager of sales, William S. Wallace, George F. Kerbey, and Kenneth R. Andersen, should be directed to the new address: 1701 Patapsco Avenue (P.O. Box 1616), Baltimore 3, phone Curtis 7-6400. A New York sales office with John F. Odeneal as technical sales representative will be maintained temporarily at 420 Lexington Avenue, New York 17, phone Murray Hill 7-7400. Inquiries concerning export should be referred to J. A. Hatton, chemical export, 161 East 42 Street, New York 17.

Other offices are being maintained at Los Angeles; Kansas City, Mo.; Houston; Dallas; Chicago; Cincinnati; Denver; New Orleans; Cleveland; Montreal and Toronto.

First Annual C. S. M. A. Survey of Industrial Waxes and Floor Finishes

(Shipments in 1953 and 1954, at manufacturers' level, of floor products designed for use in maintaining floors in commercial, industrial, institutional, public, and similar buildings. Includes all sales to government agencies—federal, state, and local—but does not include sales of retail packages, i.e. shelf goods.)

		1953				1954			
		Manufacturers Own Brands		Products Made For		Manufacturers Own Brands		Products Made For	
		Manu- factured	Purchase	Others To		Manu- factured	Purchased	Others To	TOTALS
Wax Emulsions—(Self polishing)									
Less than 16% non-volatile	gals.	4,692,111	79,983	2,817,042	7,589,136	5,154,322	79,817	3,111,081	8,345,220
16% and greater non-valatile	gals.	689,018	37,208	249,395	975,621	856,494	34,699	229,037	1,120,230
Resin Finishes—(Exclusive of shellac varnishes)									
Aqueous	gals.	464,408	_	147,827	612,235	450,636	-	231,205	681,841
Alcohol	gals.	89,999	-	10,317	100,316	80,544	_	11,065	91,609
Liquid Floor Cleaners and Wax Strippers									
Less than 20% non-volatile	gals.	3,043,413	24,513	389,398	3,457,324	3,168,691	23,571	392,624	3,584,886
20% and greater non-volatile	gals.	1,522,929	3,900	294,878	1,821,707	1,622,261	4,200	283,988	1,910,449
Floor Sealers and Gym Finishes Non-aqueous, oleoresinous,									
petroleum solvent	gals.	1.084.162	312,316	249,757	1.646,235	1,045,407	238,472	240,318	1,524,197
Lacquer and others	gals.	24,417	11,335	_	35,752	22,170	9,068		31,238
Solvent Type Waxes	9410.	2,22,	22,000				-,		,
Liquid Waxes	gals.	297,862	871	145.269	444,002	307,381	1,324	130,805	439,510
Paste Waxes	lbs.	1,227,818	2,550	1,124,932	2,355,300	1,270,517	2,758	1,202,910	2,476,185
Paste Wax Emulsions	lbs.	96,366		135,657	232,023	119,033	_	244,770	363,803
Dust Mop Treatment—(Exclusive									
of floor)	gals.	375,212	500	51,238	426,950	450,461	700	98,383	549,544
Sweeping Compounds	lbs.	37,491,905	1,259,492	29,862,000	68,613,397	39,899,254	1,458,261	32,054,000	73,411,515



Customers want quality—and the Superior "X" Duster is the quality leader of a wide variety of Oxco dusters. The "Master Blend" filling of Saran and stiffest grade horsehair has been proven by independent laboratory tests to last 3 times longer than regular filling materials. Also available are dusters with all-horsehair, horsehair and fibre, plastic, and fibre fillings. Beaver tail handle gives a firm grip and hanging ring makes storage easy.

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Urge Cooperation in Safe Use of Pesticides

COOPERATIVE action on the part of trade associations, Federal and State regulatory agencies and possibly colleges and universities to promote a "widespread campaign" of safe practices during and after applications of hazardous or injurious economic poisons was urged in a talk before the one day meeting of the Association of American Pesticide Control Officials. The cooperative program was suggested by C. O. Barnard, executive secretary of the Western Agricultural Chemicals Association speaking before the meeting held Oct. 15, at the Shoreham Hotel, Washington, D. C.

"Safety practices in manufacturing plants of the producers of basic agricultural chemicals and in the processing plants of formulators of basic compounds into field use products are not a problem," Mr. Barnard stated. It is "in the use and post-use category of pesticides, farmers and their employees, and ground and air service operators (which) have created and are creating problems . . ." he explained. He also cited disposal of used containers as an important factor in the safety problem.

The question of active ingredients and standards, particularly in household pesticides was discussed by Ernest A. Epps, Jr., chief chemist, Louisiana Department of Agriculture and Immigration, Baton Rouge, president of the association. He declared that "there are too many products on the market which profess to consist of 100 percent active ingredients. In many cases the major portion of the formulation is some type of petroleum oil. For practical purposes, an active ingredient should be one which would be effective alone, or in combination with a suitable synergist or potentiator. While it is too much to expect one hundred percent effectiveness, an active ingredient must be one which is capable of affording good control," Mr. Epps stated.

Other speakers at the meet-

ing included Dr. Bernard E. Conley, secretary of the committee on pesticides of the American Medical Association, Chicago. He discussed the AMA programs for the study of accidental poisoning. G. L. Brown of Rohm & Haas Co., Philadelphia, reported on research work done on emulsifiers and other pesticide adjuncts.

Elected president of the organization for the coming year was Clyde A. Bower of Oklahoma City, Okla. Harry J. Fisher of New Haven, Conn., was named vice-president, and A. B. Heagy of College Park, Md., was reelected secretary treasurer.

John P. Coyne of Washington, D. C., and E. R. Winterle of Tallahassee, Fla., were elected to the association's executive committee, the chairman of which is Harry J. Fisher.

Hercules Reassigns Sawdey

Roland S. Sawdey became manager of the Detroit Sales District of the Cellulose Products Department of Hercules Powder Co., Wilmington, Del., effective Nov. 1. He succeeds Emmett E. Hixon, who has been named manager of plastic sales for the department. With Hercules since 1948 he has been with the Detroit office in a sales capacity the past four years.

Resins in Waxes (From Page 169)

ject its odor in the finished product. In some cases the resin solution becomes too viscous or too dark. Monoethanolamine, triethanolamine, morpholine, amino methyl propanol and borax provide ample choice for the suitable emulsifier.

Storage stability for six months and more is not assured if each of the resins used in a formulation has a good oven stability. The determining factor is the compatibility between resins and waxes and resins and resin.

The normal carnauba wax

shellac dispersion 80:20 has excellent shelf life. If about 40% carnauba is replaced by a phenolic thermoplastic resin as wax extender in the above combination the no rubbing wax will gel after a certain time because phenolic thermoplastic resins are not compatible with shellac. This example is not given to discourage any manufacturer from using a combination of different resins but to make him realize that desired properties and stability requirements of a specific formula can be developed only by trial and error.

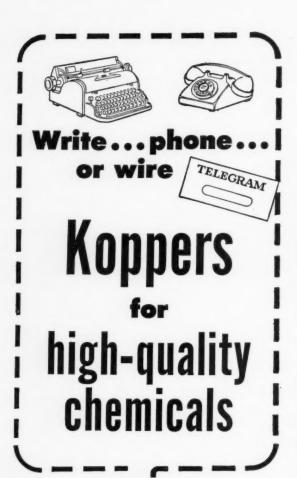
Most technical bulletins advertising the properties of a certain wax or resin or giving formulas for guidance contain at the end a small but important paragraph which has the same meaning in the whole chemical industry: The technical information submitted in this bulletin is accurate to the best of our knowledge but since the components of a formulation and plant conditions are beyond our control we cannot assume any responsibility for the results.

The justified protection of the manufacturer of chemicals has not limited the growing use of synthetic resins for floor waxes as discussed in this article. It has been always less expensive to conduct the necessary research in the specialties manufacturer's own laboratory or by using the services of a consultant chemist than to sell merchandise which is turned back to the manufacturer.

As in many other fields where plastics are replacing wool and cotton, paper, wood and even steel, more resins are preferred in floor waxes at present. This trend will probably prevail for some time to come.

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Brown Heads Gen. Chem.

Chester M. Brown has been named president of General Chemical Division of Allied Chemical &



Chester M. Brown

Dye Corp., New York, it was announced late last month. He succeeds Mark M. Biddison, who has been head of the division since 1951 and who will continue to be associated with the company in an advisory capacity and handle special assignments.

With General Chemical Division since 1929, Mr. Brown has successively served as sales and production head of the reagent and fine chemicals line, director of sales, vice-president, and in 1952 he was elected executive vice-president of the division.

Carneross Heads NPCA

I. B. Carneross, Syracuse Chemical Co., Syracuse, N. Y., was elected president of the National Pest Control Association at the

I. B. Carncross



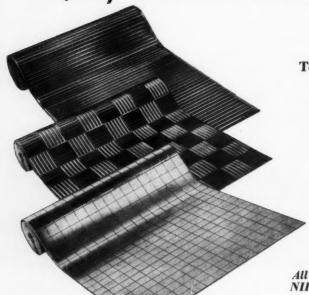
group's 22nd annual meeting in Denver, Oct. 17-19. He succeeds Harlem B. Ives of Rose Exteminator Co., Detroit, Mich. Myron W. Smith, Hill-Smith Termite Control Co., Memphis, Tenn., was chosen as executive vice-president and Harold Schnorrenberg, Dead Shot Chemical Co., Oklahoma City, was reelected as secretary-treasurer. Ralph E. Heal continues to head the association staff as executive secretary

of the association. The new executive board, under the chairmanship of Mr. Carncross, includes Mr. Ives, J. Wilfred Gunn, H. E. Jennings, and A. E. Ritt. NPCA, which chooses convention cities five years in advance, will meet in Tulsa, Okla., for the 1960 convention. The group has plans to meet in Detroit in 1956; Louisville, Ky., in 1957; Washington, D. C., in 1958; and Biloxi, Miss., in 1959.



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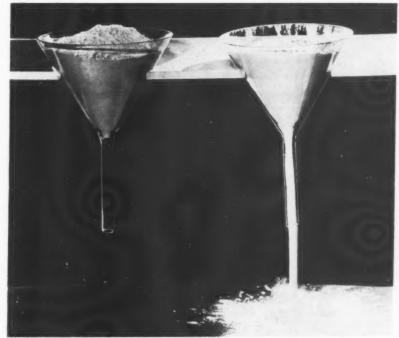
New Calcium Silicate

A new line of synthetic calcium silicates for use as an anticaking agent in insecticide dusts, cleansers, detergents, etc., was announced last month by the Celite Division of Johns-Manville, New York. Designated "Micro-Cel," the new material, which also serves as an absorbent-grinding aid for high liquid concentrate insecticide wettable powders, initially is being produced in pilot plant quantities. Early next year the line will be available in commercial quantities.

Among high concentrate wettable powders which have been found commercially practical are: 70 percent toxaphene, 15 percent aramite, 75 percent DDT, 50 percent heptachlor, and 75 percent dieldrin. Dry dust concentrates found commercially practical include 70 percent toxaphene, 50 percent aramite, and 50 percent heptachlor.

"Micro-Cel" is produced by the chemical combination of lime and diatomaceous silica. Available in specific grades, the product offers a wide range of physical properties. Effects to be expected from its use in process formulations include the following among others: absorption of liquids of up to one to two and one half times its weight while "Micro-Cel" still remains a freeflowing powder; uniform blending without segregation owing to particle sizes as low as 0.02 microns and particles of rounded to spherical shapes; various degrees of viscosity control up to paste and semi-solid by very small additions of "Micro-Cel"; control of caking through high absorption and fine particle size; bulk increase of dry powders; aid in suspension of heavier solids.

Sample test quantities and limited carload shipments of "Micro-Cel" are now available. The product comes in 40 and 50-pound bags and costs between seven and 10 cents per pound, in carload lots, f.o.b. Lompoc, Calif. Celite is building a new plant at Lompoc for the production of synthetic calcium silicates. The unit is expected to be on stream in early 1956.



New synthetic calcium silicates of the Celite Division of Johns-Manville, New York, flow like liquids as shown in photo. Clay is in funnel at left and "Micro-Cel," synthetic calcium silicate, is at right. These new powders maintain their exceptional free-flow properties even after absorbing high concentrates of other materials, according to their producer.

New Shelf-Dispenser

"Lathurshelf," a new combination shelf and soap dispenser was introduced recently by American Dispenser Co., New York. The new unit is designed to save wall space above public washroom basins. Made of polished stainless steel, "Lathurshelf" provides a surface 20 inches long and 4¾ inches wide for toilet articles and personal effects. It is available with one or two soap valves, which can be of

lather or straight liquid type, using liquid soap of any grade ranging from 10 to 20 percent. Leaking or dripping is said to be absent because the soap must be pumped.

The unit features a one half gallon stainless steel soap reservoir, which can be filled without funnels and eliminates frequent refills. A wide separate wall plate secures the unit against leverage and installation screws are concealed to avoid tampering.





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Protective Polyethylene Bag



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Williams to Michigan Chem.

Dwight Williams has joined Michigan Chemical Co., St. Louis, Mich., as director of research, it was announced Oct. 31. Dr. Williams has resigned as chief, biology and chemical branch, Quartermaster Research and Development Command, U. S. Army, Natick, Mass. His associations in industry include Westvaco Chlor-Alkali Division of Food Machinery and Chemical Corp., which he joined in 1936 at South Charleston, W. Va., as a research chemist. When he left Westvaco he held the position of assistant research director with specialization in insecticides, rodenticides, fungicides, germicides, and general chem-

Geigy Honors Veterans

The Geigy Quarter Century Club (America) recently initiated four new members who had completed a quarter century with Geigy Chemical Corp., New York. Doris Stricklin, secretary, New York; F. E. Sprock, Charlotte, N. C.,



Newly inducted members of the Geigy Quarter Century Club (America), who recently received watches and club pins upon completion of 25 years employment with Geigy Chemical Corp., New York, included, left to right: Miss Doris Stricklin, secretary, New York; F. E. Sprock, sales, Charlotte, N. C.; and Miss M. Elizabeth Allinson, secretary, Philadelphia. The other new member of the club, Robert H. Butler, sales, New England, was unable to be present because of serious illness.

sales; M. Elizabeth Allinson, secretary, Philadelphia; and Robert H. Butler, New England sales, were presented with watches and club pins by William F. Zipse, president, at a gathering of 43 club members. Mr. Zipse himself has been with Geigy for over 50 years.



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NSSA Meeting

(From Page 179)

themselves and their manufacturing partners. Unless people creating sales and advertising aids understand the problems of the user such material is of no value. The use of such sales aids furnishes the basis for making the distributor's operation "distinctive." The factor of "distinctiveness" is important in selling competitive items or services. For the jobber of sanitary supplies this factor can be achieved by offering such services as surveying customers requirements and suggesting plans or programs to meet them.

*

*

**

Mr. Zubro also pointed out that the sanitary supply distributor should take an active part in the creation, as well as distribution, of sales aids provided by manufacturers.

Jobbers should make a close analysis of their operation, both as to the types of items they are selling and the manner in which they are sold, Mr. Zubro pointed out. He urged jobbers to know more about the lines they are selling and drop the unprofitable items, and concentrate on the better ones. Too many items confuse salesmen, he explained. It is virtually impossible to give the same attention and time to all items.

"Don't be misled by gross profit margin. Sales at a profit are needed," he said.

He also suggested that jobbers develop a plan for getting new business. This should be done in an organized manner. In analyzing customers' purchases determine how profitable the customers are that you are selling, he hold the audience. Find out how much it is costing to service customers. On unprofitable business, find out what these customers are buying and where they are located. In some cases the answer may be increasing sales to such customers. The measurement of potential markets is also important, he concluded.

Leo J. Kelly, executive vice-

president of the National Sanitary Supply Association, the first speaker of the afternoon session discussed the sales aids the association is offering. He urged members to use these aids in building both the volume and prestige of the industry. "Be a want creator in your constructive selling," Mr. Kelly advised. He urged distributors to follow up inquiries, even though they may not have come from a purchasing agent.

"What's New in Sanitary Regulations" was discussed by Dr. M. A. Shiffman, Chief of Milk and Food Sanitation, City of Philadelphia. In his talk, Dr. Shiffman described sanitation regulations as standards of performance. He also reviewed the new sanitation regulations governing eating, drinking and catering establishments in Philadelphia.

The final feature of the program was a symposium discussion of market research. Panel members included Frank B. Satterthwaite, manager of the market research department of Colgate-Palmolive Co., Jersey City, N. J.; A. J. Wood, president of A. J. Wood & Co., Philadelphia market research consulting firm, and Jack Hirsch, president of Formula Floor Products, Inc., Newark, N. J.

Mr. Satterthwaite gave an illustrated talk on basic market research techniques.

Mr. Wood pointed out that it is better to leave one or two ideas with a buyer than many ideas, none of which is outstanding. He also suggested that distributors leave more details about fewer of their products. Salesmen do a more effective selling job if they know their products, he added.

He described as one of the basic functions of market research the determination in some organized fashion of what is wrong with one's business operation. One role in which the independent market research organization can aid a business in finding out what's wrong with its operation is by developing a questionnaire to use in obtaining customers' reactions to a company,

its salesmen, products and methods of operation. Usually it is more desirable to have such a survey conducted by an outside organization since buyers feel they can talk more freely than to a member of the company on whose behalf the study is being made. In addition, if necessary, the name of the company sponsoring the survey need not be revealed.

As Reader Sees It

(From Page 39)

Soap and Chemical Specialties. Not knowing the address of the Association of American Soap & Glycerine Producers, Inc., we request that you forward our request to the Soap Association.

Ivar Roeing Aktiebolaget Oxygenol Stockholm, Sweden

Copies of the booklet, "The Prevention of Occupational Skin Discases" may be obtained from the Association of American Soap & Glycerine Producers, Inc., 295 Madison Ave., New York 17, N. Y.

New Publication

Editor:

We will appreciate receiving further information regarding your new publication *Maintenance and Sanitary Supplies*. As manufacturers and distributors of maintenance and sanitation materials exclusively we feel the need for such a publication.

S. George Coates

S. George Coates & Co., Cleveland, O.

The first issue of the new Mac Nair-Dorland Co. publication, Maintenance and Sanitary Supplies, will appear in January, 1956. It will reach all types of sanitary supply jobbing firms, hotel suppliers, school supply houses, restaurant and bar supply distributors, janitor supply firms and cleaning and maintenance contractors. Initial circulation will be around 5,000. Main editorial emphasis of the new publication will be on sales, selling and distribution. Ed.

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1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Mac Nair-Dorland Co., Inc., 254 West 31st St., New York 1, N. Y.; Editor, Frank J. Reilly, 254 West 31st St., New York 1, N. Y.; Managing Editor, Ira P. MacNair, 254 West 31st St., New York 1, N. Y.; Business Manager, Thomas Morgan, 254 West 31st St., New York 1, N. Y.; Business Manager, Thomas Morgan,

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5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

signed IRA P. MAC NAIR, Publisher

Sworn to and subscribed before me this 19th day of September, 1955.

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(My commission expires March 30, 1956.)

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See page 206

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Age of	Exposure	Percent mortality in 24 hours		
treatment (days)	period (minutes)	Unvarnished plywood	Varnished plywood	
	L 13/59, 100 mg./sq. ft.	(Test begun Oct. 1	9, 1954)	
1	10	3	_	
	30	10		
	60	60	_	
	120	100	_	
7	10	5	_	
	30	23	_	
	60	85	_	
	120	100		
14	10	3		
	30	0	_	
	60	3	_	
	120	50	_	
	DDVP, 25 mg./sq. ft. (Test begun Jan. 10.	1955)	
1	10	95	100	
	30	100	100	
	60	100	100	
7	10	100	100	
	30	100	100	
	60	100	100	
14	10	55	85	
	30	90	37	
	60	100	100	
28	10	5	10	
	30	83	53	
	60	100	100	

Insecticidal Phosphorus

(From Page 154)

was effective for 10 to 14 days, and OS 1836 and L 13/59 for more than 31 days.

DDVP and OS 1836 were about equally effective as contact sprays against house flies, and were considerably more effective than L 13/59.

In sugar-bait tests in the laboratory complete mortality of house flies was obtained with DDVP at 0.01 percent, L 13/59 at 0.1 percent, and OS 1836 at one percent. In tests with sugar baits in barns DDVP and its homologs gave greater reductions than L

13/59 in the first 10 minutes, but all the compounds gave equal control after four hours.

Deposits of DDVP at 25 mg. per square foot on plywood were more effective than heavier deposits of L 13/59 against house flies, but in unscreened dairy barns DDVP at 100 mg. per square foot was effective for only three to four days.

Deposits of L 13/59 at 200 mg. per square foot on plywood were more effective against cat fleas and bed bugs after a month of aging than those of OS 1836 or DDVP.

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Table 8. — Effectiveness of residual treatments of Bayer L 13/59 and some other phosphorus compounds against bed bugs and cat fleas, after the residues had aged for one day and one month.

		Percent kill i	in 24 hours		
Insecticide	Bed	bugs	Cat fleas		
	l day	1 month	l day	1 month	
Bayer L 13/59	100	100	100	100	
DDVP	100	90	100	70	
Shell OS 1836	100	0	100	_	
Diethyl 2, 2, 2-trichloro- l-hydroxyethylphosph acetate		90	100	80	

Perfuming Shampoos

(From Page 49)

To do a first-rate job of masking by-odors or perfuming a shampoo the base product must first be thoroughly assessed to define clearly the odor problem to be solved. Because there is a great deal of art as well as science in perfumery, a number of trials must usually be made to develop the precise combination of raw materials that will cover the odor and will meet the other limitations imposed by the



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shampoo formulation. To achieve the distinctive identifying fragrance the blend is expanded to meet the conditions outlined in the preceding paragraph.

It is encouraging to note the current trend toward higher percentages of superior perfumes in shampoo. This trend, it may be supposed, reflects growing recognition by manufacturers that a fine product, well made and well packaged, can create an even stronger impression of luxury and quality by imparting to the user through its fragrance still another aspect of the glamour she seeks.

Explosion Proof Vacuum

The explosion proof industrial vacuum cleaner introduced recently by Multi-Clean Products Inc., St. Paul, Minn., as "H-500" was approved last month by Underwriters Laboratories. The U. L. approval covers operation of the unit for wet or dry vacuum cleaning in Group 1, Class D and Group 2, Class G locations.

A few years ago Multi-Clean introduced an explosion-proof floor machine. With the approved vacuum cleaner the firm now offers an explosion-proof team for clean-up and floor maintenance in locations presenting an explosion hazard.

R. R. Deupree

(From Page 52)

the National Advisory Council in the Office of Production Manager and the War Labor Board.

Following the end of World War II he was appointed Chairman of the Army-Navy Munitions Board, which was charged with the responsibility for stockpiling critical war materials and for conducting a study of the problem of dispersing American industry should another war occur.

Perhaps the achievement Mr. Deupree is proudest of is the selection and schooling of the Procter & Gamble management organization. It is the model and envy of many competitive firms in the industry. So it is easy to see why

since the company has had an employment policy it has attracted aspiring young men who move ahead just as fast as talent and training permit. Promotions are consistently made from within the ranks of employees; executive positions are never filled by hiring men away from other companies.

Mr. Deupree has no interest in purely honorary assignments. He's much too energetic for that. The active and determined leader of many Cincinnati charitable and civic affairs, some of them are: executive committee chairman, Cincinnati Commission, Metropolitan Area Problems; president, board of trustees, Cincinnati Childrens Hospital; trustee, Cincinnati Institute of Fine Arts; Cincinnati Music Hall Association; chairman, Cincinnati Community Fund (1936, 1943, 1945).

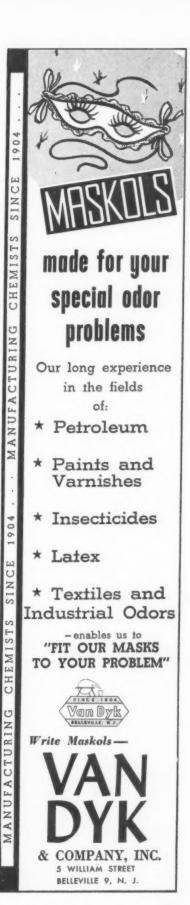
His "other business affiliations" as listed in his company bibliography include directorships on: Baltimore and Ohio Railroad Co.; Coca-Cola Co.; Cincinnati and Suburban Bell Telephone Co., and J. P. Morgan & Co.

Mr. Deupree's management activities include: visiting committee, Harvard Business School; Business Advisory Council, Department of Commerce, and board of trustees, National Safety Council.

Mr. Deupree's successor as president of Procter & Gamble, Neil McElroy, uses the word "realist" in speaking of his predecessor. He stated that "when Mr. Deupree became chairman of the board and I became president (in 1948), he turned the reins over to me completely. He is always there ready to help and certainly I turn to him often for advice."

Although Mr. Deupree lists as hobbies hunting and golf, he is known to like to place an occasional bet on the horses. However, he admits that in spite of careful and knowing selection, he loses money over the course of the year.

And that, as far as is known, is the only thing he has ever lost money on, as most of his competitors will unhappily testify.



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Coming Meetings

American Public Health Association, 83rd annual meeting, Municipal Auditorium, Kansas City, Mo., Nov. 14-18.

Association of American Soap & Glycerine Producers, Inc., 29th annual meeting, Waldorf-Astoria Hotel, New York, Jan. 25-27, 1956.

Chemical Specialties Manufacturers Association, 42nd annual meeting, Roosevelt Hotel, New York, Dec. 5-7.

Entomological Society of America, annual meeting, Netherlands Plaza Hotel, Cincinnati, Nov. 29-Dec. 2.

Exposition of Chemical Industries, Commercial Museum and Convention Hall, Philadelphia, Pa., Dec. 5-9.

Grocery Manufacturers of America, annual meeting, Hotel Waldorf-Astoria, New York, Nov. 16-18.

National Association of Retail Grocers, Los Angeles, June 10-14, 1956.

National Chemical Exposition, Public Auditorium, Cleveland, Nov. 27-30.

National Packaging Exposition of the American Management Association, Convention Hall, Atlantic City, N. J., Apr. 9-12, 1956.

National Sanitary Supply Assn., 33rd annual convention and trade show, Conrad Hilton Hotel, Chicago, Apr. 29, 30 and May 1, 2, 1956.

Plant Maintenance Show, Convention Hall, Philadelphia, Jan. 23-26, 1956.

Society of Cosmetic Chemists, 10th anniversary meeting, Commodore Hotel, New York, Dec. 15.

Supermarket Institute, midyear meeting, Palm Springs, Calif., Jan. 8-12, 1956, annual convention, Cleveland, May 6-9, 1956.

Synthetic Organic Chemical Manufacturers Association, monthly luncheon meetings Commodore Hotel, New York, Jan. 11, Feb. 8; annual dinner, Statler Hotel, New York, Dec. 1.

Toilet Goods Association, Scientific Section, midwinter meeting, Waldorf-Astoria Hotel, New York, Dec. 14.

Weed Society of America, first annual meeting, New Yorker Hotel, New York, Jan. 4-6, 1956.

Sudex to ADVERTISERS

Aerosol Process Co	197	Haviland Corp.
Alsop Engineering Corp	66	Hercules Powde
American Standard Mfg. Co		Hill Top Resea
Andersen, Dr. Carl N	197	Hooker Electron
Antara Chemicals Div., General	25	Houchin Machin
Aniline & Film Corp.	25	Hudson Labora
Argueso & Co., M.	189	Hysan Products
Armour & Co.		
Aromatic Products, Inc4th Co		Jones & Co., R.
Atlantic Renning Co.	02	Jones & Laughl
Baird & McGuire, Inc	150	
Ball Brothers Co		Koppers Co
Bareco Oil Co.	124	
Barr & Co., G		Lancaster, Allwi
Belgian Nitrogen & Chemical		Lewers, Dr. W.
Products Co.	102	
Blockson Chemical Co13,		Magnus, Mabee
Boxer Mfg. Corp.		Mantrose Corp.,
Buckingham Wax Co.		Marchon Produc
Bush & Co., W. J.		Mathieson Chen Mathieson Ch
California Spray-Chemical Corp		McCutcheon, J.
Candy & Co.	10	McLaughlin Gor
Carbide & Carbon Chemicals Co., Union Carbide & Carbon Corp	127	Mione Mfg. Co
Chemical Industries Exposition		Molnar Laborato
Chemical Service of Baltimore, Inc.		Monsanto Chemi
Chemical Specialties Mfrs. Assoc 1		Moore Brothers
Chiris Co., Antoine		Moran Brush M
Columbia-Southern Chemical Corp.		
Consolidated Packaging Mach'y		National Aniline
Corp,	70	National Milling
Continental Filling Corp		Newman Tallow
Continental Oil Co.		Niagara Alkali (
Cowles Chemical Co	27	Nopco Chemical
Cox, Dr. Alvin J	197	Norda Essential
Davies-Young Soap Co 1	24	
Diehl & Co., Wm.		O'Donnell, Jame
Douglas Chemical Co		Old Empire, Inc
Dow Chemical Co.		Olin Mathieson
du Pont de Nemours & Co.,		Industrial Che
E. I28, 141, 149, 1	65	Orbis Products
El Dorado Oil Works	72	Oronite Chemica Owens-Illinois G
Emery Industries, Inc.	72	Ox Fibre Brush
Emulsol Chemical Corp 1		Ox Fibre Drush
Ertel Engineering Corp.		Pacific Coast Bo
Sittle Engineering Corp.	/-	Packer Machiner
Fairfield Chemical Division 1	35	Paul & Co., J. C
Federal Varnish Division 1		Petrolite Corp.
Felton Chemical Co.	33	Philadelphia Qua
Franklin Research Co 1	82	Plax Corp.
Fritzsche Brothers, Inc 1	66	Potdevin Machin
Fuld Brothers, Inc.	3	Precision Valve
C: C D:	00	Prentiss Drug &
The state of the s	89	Price, Dr. Dona
General Chemical Div., Allied	61	Procter & Gambl
Chemical & Dye Corp11, 160, 16		Puro Co., The
C1	1.1	Pylam Products
Givaudan-Delawanna, Inc108, 13 Goodrich Chemical Co., The B. F	14	
Gross & Co., A		Rapids Machinery
300, 14 mmmmmm 11		Refined Products
Haag Laboratories, Inc 19	90	Rheem Mfg. Co.
Harchem Div., Wallace & Tiernan,		Rohm & Haas Co
	92	Roure-Dupont, In

W 11 1 C W 200	C.1.:
Haviland Corp., Warren 200	Schimmel & Co
Hercules Powder Co. 24	Scientific Filter Co
Hill Top Research Institute, Inc 197	Seil, Putt & Rusby, In
Hooker Electrochemical Co	Semet-Solvay Petroche Allied Chemical & D
Houchin Machinery Co	Shanco Plastics & Che
Hudson Laboratories, Inc	
Hysan Products Co 7	Shea Chemical Corp
	Shell Chemical Corp.
Jones & Co., R. A	Shulton, Inc.
Jones & Laughlin Steel Corp 85	Simoniz Co.
	Sindar Corp.
Koppers Co 188	Snell, Inc., Foster D. Societe Belge de l'Azo Products Chimiques
Lancaster, Allwine & Rommel 197	Solvay Process Div.,
Lewers, Dr. W. W 197	Chemicals & Dye Co Solvents & Chemicals
Magnus, Mabee & Reynard, Inc 174	The
Mantrose Corp., The 168	Sonneborn Sons, Inc., I
	Spraying Systems Co
Marchon Products, Ltd	Stalfort & Sons, Inc., J.
Mathieson Chemical Div., Olin Mathieson Chemical Corp128, 129	Starr, Dr. Donald F
	Steccone Products Co.
McCutcheon, J. W. 197	Stepan Chemical Co., 7
McLaughlin Gormley King Co 147	
Mione Mfg. Co 186	Sterwin Chemicals, Inc
Molnar Laboratories	Stillwell & Gladding, In
Monsanto Chemical Co 8, 9	Superior Rubber Mfg.
Moore Brothers Co 182	Swift & Co
Moran Brush Mfg. Co 192	
	Tamms Industries, Inc.
National Aniline Division	Testfabrics, Inc
National Milling & Chemical Co 193	Thompson, Jr., Friar M
Newman Tallow & Soap Mach'y Co. 198	Thomssen, Dr. E. G
Niagara Alkali Co 74	
Nopco Chemical Co	Iller Chamical Warles
Norda Essential Oil & Chemical Co. 21	Ultra Chemical Works, Uncle Sam Chemical Co Ungerer & Co
O'Donnell, James P 197	Union Carbide & Carbo
Old Empire, Inc 196	Carbide & Carbon Ch
Olin Mathieson Chemical Corp.,	Union Standard Equips
Industrial Chemicals Div128, 129	U. S. Bottlers Machiner
Orbis Products Corp 159	o. b. bottlets muchine
Oronite Chemical Co 18	
Owens-Illinois Glass Co90, 91	van Ameringen-Haebler,
Ox Fibre Brush Co 186	Van Dyk & Co., Inc
212 2 1212 1 1222 244 1 1122	Varley & Sons, Inc., Jan
Pacific Coast Borax Co 16	Velsicol Chemical Corp
Packer Machinery Corp 70	Verley & Co., Albert
Paul & Co., J. C	Verona Chemical Co
Petrolite Corp. 130	Versenes—The Dow Che
Philadelphia Quartz Co	Victor Chemical Works
Plax Corp. 88	
	Warwick Wax Co
	Washburn Co., T. F.
Precision Valve Corp. 98	Wear Proof Mat Co
Prentiss Drug & Chemical Co 143	
Price, Dr. Donald	Welch, Holme & Clark
Procter & Gamble Co	Westvaco Chlor-Alkali
Puro Co., The	Westvaco Mineral Prod
Pylam Products Co 194	Wisconsin Alumni Resea
Rapids Machinery Co 71	Wurster & Sanger, Inc.
Refined Products Corp 4	Wyandotte Chemicals
Rheem Mfg. Co	Corp
Rohm & Haas Co 118	
Roure-Dupont, IncBetween 106 & 107	Ziegler & Co., G. S

Schimmel & Co.	104
Scientific Filter Co.	. 72
Seil, Putt & Rusby, Inc.	199
Semet-Solvay Petrochemical Div.,	***
Allied Chemical & Dye Corp Shanco Plastics & Chemicals, Inc	
Shea Chemical Corp	23
Shell Chemical Corp.	6
Shulton, Inc.	120
Simoniz Co.	126
Sindar Corp.	40
Snell, Inc., Foster D.	184
Societe Belge de l'Azote et des Products Chimiques du Marly	102
Solvay Process Div., Allied	100
Solvay Process Div., Allied Chemicals & Dye Corp17,	, 125
Solvents & Chemicals Group, The170,	
The170,	171
Sonneborn Sons, Inc., L	104
Stalfort & Sons, Inc., John C86	87
Starr, Dr. Donald F.	199
Steccone Products Co	204
Stepan Chemical Co., The	80
Sterwin Chemicals, Inc.	180
Stillwell & Gladding, Inc.	215
Superior Rubber Mfg. Co Swift & Co	
Switt & Co	39
Tamms Industries, Inc.	106
Testfabrics, Inc.	
Thompson, Jr., Friar M	199
Thomssen, Dr. E. G.	199
Ultra Chemical Works, Inc	22
Uncle Sam Chemical Co	194
Ungerer & Co3rd Co	ver
Union Carbide & Carbon Corp., Carbide & Carbon Chemicals Co	127
Union Standard Equipment Co	201
U. S. Bottlers Machinery Co	68
van Ameringen-Haebler, Inc56,	142
Van Dyk & Co., Inc.	205
Varley & Sons, Inc., James4th Co Velsicol Chemical Corp	ver
Verley & Co., Albert	66
Verona Chemical Co.	78
Versenes-The Dow Chemical Co	76
Victor Chemical Works60,	
Warwick Wax Co	134
transfer and an arrangement of the second of	172
Wear Proof Mat Co	130
Westvaco Chlor-Alkali Div	116
Westvaco Mineral Products Div	15
Wisconsin Alumni Research	
Foundation	200
Wurster & Sanger, Inc.	70
Wyandotte Chemicals Corp57, 112, 113, 1	132

Tale Ends

BECAUSE of his prominence, we can't mention his name. But this top man of one of our leading soap companies who has spent many years in the soap racket was spotted one day in a railroad station reading a newspaper. Our observer figured it was probably a copy of the "Wall Street Journal" which we hear big shots read a lot. But upon drawing closer, he noted to his amazement that it was a copy of "The Racing Form." The top man had his pencil out and was really doping them. Ain't that a hot one?

Somebody's liable to get shot for this! It happened at the plant of Lehn & Fink out in Bloomfield, N.J. A porter was scrubbing a floor and using a disinfectant, the bottle of which stood close by. Upon examination, our observer reports that it was a bottle of CN, the West Disinfecting product. Now, Lehn & Fink have been manufacturers of Lysol disinfectant for about 75 years. As we said before, somebody's apt to be shot for doing a thing like that. We hope it's not the poor old porter.

With bated breath, the American public receives the news that the sale of mustache wax in certain areas of the mid-west is breaking all records. Not since the days of our grandfathers, have mustache wax sales been equal to the present demand, according to one report from the barbers of Port Huron, Mich. But it's not for mustaches that the stuff is being sold. It's to make crew haircuts stand up, and teen-agers are the customers.

The world's record for the consumption of hot dogs has just been broken, according to Tee-Pak, Inc., Chicago, the outfit which makes the "skins for skinless frankfurters." All told, they say, Americans ate 2,656,729,500 frankfurters between Memorial Day and Labor Day this year, an average of 16.16 per person and a record. Last year, it was a mere 15.33 dogs per person. Some day we're going to get up some figures on how often the average American washes his neck and with what. It's a promise. Everybody's got figures for everything except us.

A case of scotch for the best advertisement. That, gentle reader, is one to comb out of your whiskers. But it's not for a regular advertisement in a regular magazine, but for one in the annual funny magazine published by the Chemical Salesmen's Association as the "Chemical Peddler" these many years and brought out

for their annual Christmas Party. The award of the case of whiskey will be made by Barrett's Leon Miller, himself a teetotaler. The board of judges, rumor says, will consist of two bar flies and an advertising expert, so-called.

From a soaper out of Iceland, we just received an interesting bit of news. It seems that during the war, a ship was torpedoed and sunk off Iceland. Midst the debris which floated ashore were several sacks of mail. Our soaper friend was present when these were slit open and, low and behold, one of the first things which came out of one of the sacks was a copy of "Soap & Chemical Specialties." Funny, but we never remember receiving a complaint about the non-receipt of that particular copy.

A couple of months ago, we had an article about the Johnson family of floor wax fame including a cover photo of Herbert F. Johnson, president of the company and his son, Samuel C. Johnson. Unknowingly, we omitted mention of another very important member of the Johnson family, the latter's son, Samuel C. Johnson, II. Now, Sam II is only a few months old and is not as yet in the wax business. But he's a fifth generation Johnson and certainly should have been mentioned. Our apologies, Sam!

In addition to his talents as an aerosol valve sales executive extraordinary, Fred Lodes of Precision Valve Corp. up Yonkers way, is also quite a golfer. The other week-end, for instance, he and partner Harry Cooper put together a neat 61 to be runnersup in the Knollwood C. C. pro member tournament.

Soapers who persist in selling soap should take a leaf from the promotion efforts of the National Renderers Assn. Each letter of that association goes out in an envelope on which appear the words "Real Soap Costs Less Cleans Best." The slogan is printed in red and in capital letters.

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